The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLIV. CHICAGO, ILLINOIS, MARCH 18, 1905. No. 11.

Original Articles.

CLINICAL EXAMINATION OF THE URINE.

A CRITICAL STUDY OF THE COMMONER METHODS.

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In 1897 Councilman[1] wrote, in a paper on "Acute and Subacute Nephritis": "The chemical and microscopic examination of the urine, important as it is, does not give any sure information as to the character of the (renal) lesions."

Reflecting on this remark and recalling various discrepancies between antemortem and postmortem diagnosis in renal cases that have come under my observation, it seemed to me worth while to compare systematically the urinary records and postmortem findings in all the cases of acute and chronic nephritis that have come to autopsy at the Massachusetts General Hospital since 1893. The results of this work form the bulk of the present paper.

The group of cases examined excludes all suppurative diseases in or near the kidney, and includes, for the sake of comparison, some conditions in which the urine is more or less like that of nephritis.

Since the histologic lesions found postmortem have been the basis of the nomenclature used throughout, I append a brief statement of the appearances to which each name refers:

Following in a general way the views of Councilman, cases were classified as:

1. *Acute degeneration* of the kidney when the lesions are confined to the epithelium (albuminous, hyaline and fatty degeneration, or complete necrosis), without other lesions of the glomeruli, vessels or connective tissue.

2. *Acute glomerular nephritis*[2] applies to cases in which, besides a varying amount of degenerative lesions, well-marked exudative or proliferative changes are found in the glomeruli. When exudative lesions predominate the capsule spaces contain serum, fibrin or blood, while the capillaries are filled with thrombi or polynuclear leucocytes.

When proliferative lesions predominate, the cells lining Bowman's capsule or those lining the glomerular capillaries are greatly increased in number and collect in the capsular space or in the lumina of the capillaries.

In cases in transition to subacute or chronic forms, some of the glomerular vessels are obliterated by hyaline degeneration of the cells occluding them.

3. *Subacute glomerular nephritis* refers to proliferative glomerular lesions of somewhat greater duration. The glomerulus is usually lobulated and its capsular epithelium proliferated. The capillaries are partially obliterated by hyaline thickening of the basement membrane surrounding them.

4. *Chronic glomerular nephritis* is conceived as the end-stage of the acute or subacute cases. The glomeruli show extensive sclerosis with obliteration of the capillaries in some portion of the organ, while less advanced (acute or subacute) lesions are seen in other portions. As in all forms of glomerular nephritis, degenerative tubular lesions are usually present.

5. Under the name of *chronic interstitial nephritis* are grouped those cases in which the lesions appear to originate not in the glomeruli but in the connective tissue and blood vessels. Irregular bands of hypertrophied connective tissue produce secondary atrophy of the glomeruli and degeneration of the tubular epithelium. The arteriosclerotic changes usually found in the vessels are not the predominating lesion.

6. By *amyloid nephritis* is meant a form of chronic glomerular nephritis in which the capillaries are infiltrated with amyloid.

7. By *senile atrophy* is meant a process identical in histologic structure with that defined as "chronic interstitial nephritis," but involving a relatively small portion of the kidney substance with relatively large areas of normal tissue intervening.

8. *Arteriosclerotic atrophy* refers to a condition similar to that just described but with the chief lesion in the blood vessels.

9. *Fatty degeneration* refers in this paper only to the comparatively rare cases in which the lesion is very marked. The slight degrees of fatty metamorphosis often seen in this series in association with acute (albuminous) degeneration are not here separately considered.

In studying this group of lesions, I began by picking out from the record of autopsies made by Dr. James Homer Wright since 1893, all cases in which any one of the above conditions was found at autopsy.* I then looked up the clinical records with special reference to the urinary analysis and compared them with the anatomic lesions.

Next, I selected from the autopsy records all cases in which macroscopic and microscopic examination revealed nothing abnormal about the kidneys, and sought to find out from the clinical record whether the kidneys had seemed so blameless before death as they appeared to be at the autopsy. Briefly stated, the two questions investigated were:

1. When an anatomic lesion is found postmortem, how often is that lesion evident from the urine in life?

2. When no anatomic lesion is found postmortem, how often is the urine normal?

1. Councilman: Medical and Surgical Reports of the Boston City Hospital, 1897.

2. No cases of acute interstitial (non-suppurative) nephritis are included in the series on which this paper is based.

* Dr. Wright has recently looked over the sections from most of these cases and verified the diagnoses.

ACUTE GLOMERULAR NEPHRITIS.

Of the 21 cases recorded in Table 1, only five were diagnosed as nephritis during life, and not one was recognized as acute nephritis. Of the 5 diagnosed as nephritis, 3 were called chronic diffuse nephritis and 1 chronic interstitial nephritis. In other words, there was some discrepancy between the antemortem and postmortem findings in 93 per cent. of the cases, while in 75 per cent. the diagnosis of nephritis was not made at all during life.

Who is to blame for this?

The urinary analyses were made with care by men well trained in the art, for it has long been true that graduates of the Harvard Medical School trained under Prof. E. S. Wood always know how to examine urine, even when they know little else. In many cases the analyses were made by Professor Wood himself. There is no reason to attribute the 75 per cent. of diagnostic failures to incompetence on the part of the internes.

Could the diagnoses have been correctly made if these analyses had been properly interpreted? I think not. A study of the data recorded in Table 1 and a comparison of these data with cases showing postmortem the lesions of passive congestion or of arteriosclerotic atrophy will reveal that there are no essential nor characteristic features about the urine in some of the cases of acute glomerular nephritis. Indeed, some kidneys that showed no lesions at all postmortem were asso-

TABLE I.—ACUTE GLOMERULAR NEPHRITIS.

Case No.	Autopsy No.	Anatomic Diagnosis.	Clinical Diagnosis.	Urine.					Other clinical signs of nephritis.
				24-hour amt.	Specific gravity.	Albumin, per cent.	Urea, per cent.	Sediment.	
1	919	Acute glomerular nephritis. Cardiac hypertrophy and dilatation.	Subacute glomerular nephritis.	1000 c.cm.	1014	0.2	1.5	Rare hyaline casts. Numerous normal and few abnormal red cells.	Uremic convulsion.
2	915	Acute glomerular nephritis. Ulcerative endocarditis. Cardiac hypertrophy and dilatation.	.....	(?)	101	⅜	1.1	Rare hyaline casts with cells adherent. Rare red corpuscle, much pus.	None.
3	868	Acute glomerular nephritis. Streptococcus septicemia.	Vesical calculus.....	850 c.cm. average	1025	¼	.....	Pus, blood and triple phosphate. No casts.	None.
4	810	Acute glomerular nephritis. Mitral stenosis. Cardiac hypertrophy and dilatation. Chronic passive congestion.	Mitral stenosis.....	850 c.cm. average	1017 Average	Slight trace.	.....	Few hyaline and granular casts with occasional cell adherent.	None.
5	631	Acute glomerular nephritis. Arteriosclerosis. Chronic endocarditis. Aneurism of iliac artery.	Aneurism of iliac artery.	.....	1023	Slighest possible trace.	.....	Few hyaline and granular casts with an occasional cell adherent.	None.
6	626	Acute glomerular nephritis. Pulmonary abscess. Fatty liver.	Cirrhosis of liver.....	.....	1015	¼–½	.....	Few hyaline and coarse granular casts. Bile-stained cells.	Convulsions, delirium.
7	621	Acute glomerular nephritis. Acute cystitis. Fatty iver.	Alcoholism.....	.....	1013	Very slight trace.	.....	Very rare hyaline casts.....	None.
8	608	Acute glomerular nephritis. General purulent peritonitis.	General peritonitis from pus tube. Pyemia. Dry pleurisy.	(?)	1011	Slightest possible trace.	.....	Occasional hyaline and granular casts, considerable pus.	None.
9	597	Acute glomerular nephritis. Syphilitic hepatitis. Portal vein thrombosed.	Cirrhosis of liver, hematemesis.	(?)	1014	Slightest possible trace.	.....	No casts. Rarely an abnormal red blood cell.	None
10	543	Acute glomerular nephritis. Bronchopneumonia. Streptococcus septicemia.	Chronic diffuse nephritis.	600 c.cm.	1008 to 1031 Average 1019	0.3 to 1.5	1 Average.	Hyaline and fatty casts numerous, few brown granular and epithelial casts.	Anasarca.
11	530	Acute glomerular nephritis. (Not typical.) Thyroid adenoma. Bronchitis.	Exophthalmic goiter terminal infection.	1000 c.cm.	1012	Slighest possible trace.	.....	No casts. Much pus, Rare red cell.	None
12	529	Acute glomerular nephritis. Streptococcus septicemia. Arteriosclerosis.	Chronic interstitial nephritis. Acute pericarditis. Arteriosclerosis.	85 c.cm.	1020	Very slight trace.	2.5	Many hyaline and granular casts. Few brown granular and blood casts. Many cells and red corpuscles on casts.	General anasarca.
13	511	Acute glomerular nephritis. Cardiac hypertrophy and dilatation. General chronic passive congestion.	Aortic and mitral disease.	400 to 1600 c.cm. average 760 c.cm.	1013 to 1026 Average 1019	Trace increasing to ½	16 grams average.	Many hyaline casts with cells and fat adherent.	None.
14	369	Acute glomerular nephritis. Aortic regurgitation. General passive congestion.	Malignant endocarditis.	1150 c.cm. average	1017	Trace.	.....	Hyaline and granular casts with considerable fat and a few cells and blood globules adherent.	None.
15	353	Acute glomerular nephritis. Typhoid fever.	Typhoid fever.....	.....	1024	0.1	10 grams.	Many brown granular casts, some with cells adherent.	None.
16	335	Acute glomerular nephritis. Acute and chronic endocarditis.	Malignant endocarditis.	.....	1017	¼	.....	Few hyaline and granular casts, some with renal cells adherent. Few abnormal red corpuscles.	None.
17	258	Acute glomerular nephritis. Acute chronic endocarditis. Hypertrophy and dilatation	Chronic endocarditis. Broken compensation.	.....	1031	½	1.25	Much pus. Many hyaline and fine granular casts of all sizes, some with epithelium adherent.	None.
18	255	Acute glomerular nephritis. Septic endocarditis and meningitis.	Pneumonia. Septic endocarditis. Pneumococcemia.	900 c.cm. average	1015 and 1020	0-1 and ⅛	2.45	Many hyaline, fine and coarse granular casts of all diameters with blood cells and a little fat adherent.	None.
19	192	Acute glomerular nephritis. Acute endocarditis. Cardiac hypertrophy, dilatation.	Chronic diffuse nephritis. Chronic endocarditis.	900 c.cm.	1016	¼	1.5	Many epithelial and brown granular casts. Few hyaline and blood casts, and fatty casts.	One convulsion, edema of face.
20	65	Acute glomerular nephritis. Sarcoma of chest. Pleurisy.	Sarcoma of neck and chest.	.....	1021	0.1	.....	Few hyaline granular casts with occasional cell adherent, normal blood.	None.
21	60	Acute glomerular nephritis. Universal eczema. Tuberculous enteritis.	Uremia.....	Much diminished.	1027	1	0.5	Many casts of all kinds. Much blood.	Anasarca, vomiting.

ciated with urinary abnormalities as great as any in Table 1. (See Table 8.)

The amount of albumin was .5 per cent. or more (Esbach) in 6 cases (or 28 per cent.), .1 per cent to .25 per cent. in 7 cases and only a trace in 8; in other words, it varied between wide limits and no rule is apparent.

The specific gravity is below 1,020 in 13 cases and above it in 8. The 24-hour amount was always reduced, but not more so than in many other diseases.

Casts were absent in 3 cases, scanty in 9, and abundant in 8. No single type predominated except the hyaline variety, which is the least distinctive or significant of all. Blood in considerable quantity (i.e., more than a single corpuscle here and there,) was present in but 2 cases.

Dropsy was present only in the 5 cases rightly diagnosed and in 2 others in which uncompensated mitral disease was found. Uremic symptoms were present in none of the unrecognized cases.

I am convinced, therefore, that the failure to anticipate during life that an acute glomerular nephritis would be found postmortem was due, not to any avoidable error or omission on the part of those in charge of the cases, but to a lack in our diagnostic resources. The chemical and microscopic examination of the urine is often insufficient, even when taken in connection with all the available clinical data, to tell us whether acute glomerular nephritis is present or not.

Acute glomerular nephritis, as defined above, not infrequently exists without any distinctive clinical manifestations, either in the urine or elsewhere.

That there are many cases of acute glomerular nephritis which can be recognized during life I do not for a moment intend to deny, but it appears to be the fact that some are unrecognizable. Further, since so many cases get well and so many of the fatal ones do not come to autopsy, we have no way of estimating whether the recognizable cases make up a large or a small percentage of the total number that exist. Were the scanty, bloody urine of the text-books a constant feature in acute glomerular nephritis, our task would be a simple one, but the text-book picture was not present in any one of this small series of cases. I have often seen scanty bloody urine in postscarlatinal nephritis and in the acute exacerbations of chronic cases, but though its presence is very helpful in diagnosis, its absence does not mean the absence of acute glomerular nephritis, as this series shows.

A point of interest in this series of cases is the presence of generalized streptococcus or pneumococcus infection, recognized postmortem in 4 of them, and the association of 2 others with an acute endocarditis which may very possibly have been due to the pneumococcus.

SUBACUTE GLOMERULAR NEPHRITIS.

In the cases classified postmortem as "subacute glomerular nephritis," the disagreements with the clinical findings have been fewer. Five out of 10 cases were recognized antemortem as belonging to the general class—"nephritis." One was called acute nephritis, 1 chronic glomerular nephritis, 1 interstitial nephritis, and in the 2 remaining (one an eclamptic case) the type is not specified. The 5 unrecognized cases are indexed in hospital records as follows: Gallstones, actinomycoses (ribs), sloughing uterine fibroid, acute endocarditis, and pneumonia with alcoholism.

TABLE II.—SUBACUTE GLOMERULAR NEPHRITIS.

Case No.	Autopsy No.	Anatomic diagnosis.	Clinical diagnosis.	Urine.				
				24-hour amount.	Specific gravity.	Albumin, per cent.	Urea, per cent.	Sediment.
1	44	Subacute glomerular nephritis with chronic interstitial nephritis.	Chronic glomerular nephritis.	Anuria practically	1036	½	.....	Very numerous casts of all varieties.
2	62	Subacute glomerular nephritis.	Acute nephritis.....	1850 c.cm. average.	1012	¼	31 grams.	Many hyaline and granular casts with few fat drops, blood corpuscles, or cells adherent. Few epithelial and waxy casts. Much normal and abnormal blood.
3	281	Subacute glomerular nephritis with passive congestion.	Mitral regurgitation nephritis.	400 to 600 c.cm.	1011 to 1028.	¼ to 1	20 grams average.	Many hyaline, granular and blood casts with cells and fat adherent. Few waxy casts.
4	330	Subacute glomerular nephritis with suppurative nephritis.	Gallstones.....	950 c.cm. average.	1011	Trace to 0.1	1.5	Many epithelial and fatty casts; some with blood adherent.
5	378	Subacute glomerular nephritis.	Nephritis; eclampsia	1000 c.cm.	1022	¼ to ½	.....	Many hyaline, granular and brown granular casts with occasional cell adherent.
6	470	Subacute glomerular nephritis. Actinomycosis.	Actinomycosis.....	.....	1027	Slightest possible trace.	.....	Few hyaline and granular casts.
7	472	Subacute glomerular nephritis with arteriosclerosis.	Sloughing uterine fibroid.	.....	1012	⅛	.....	Few hyaline granular casts.
8	511	Subacute glomerular nephritis. Pneumonia.	Pneumonia. Alcoholism.	.....	1016	0.1	.....	Fine granular and brown granular casts with an occasional cell adherent.
9	538	Subacute glomerular nephritis.	Chronic interstitial nephritis with acute exacerbation.	600 to 1400	1015 average.	0.2 average.	14 grams average.	Hyaline, granular, brown granular, epithelial and blood casts; rarely a fat drop adherent.
10	773	Subacute glomerular nephritis. Slight.	Endocarditis.	1500 average.	1023 average.	(?)	20 grams average.	Many hyaline, granular, epithelial fatty and waxy casts.

If we turn from the question, What diagnosis was actually made? and ask, What diagnosis ought to have been made? in these unrecognized cases, we find no sufficient reason to blame the clinicians except in one case (No. 10), in which nephritis might certainly have been suspected. In the others the urines, to be sure, are not normal, but neither do they present any abnormality greater in degree or different in kind from that often found in fever urines; i. e., in febrile diseases such as were present in these cases, pneumonia, gallstones, etc. If we compare these urines with some of those recorded in Table 8, which represents cases in which no appreciable lesions could be found after death, we must acknowledge that there is no considerable difference except in the single case above referred to. In this case, the urinary anomalies are, indeed, quite marked, but here, as if by the irony of fate, we note that the postmortem record reads: "*Slight* capsular glomerular nephritis," while in case 6 of this series the lesions postmortem were

much more marked, although the urine indicated a milder process.

On the whole, although in these cases of subacute glomerular nephritis the discrepancies between antemortem and postmortem findings are not so glaring nor so numerous as in the acute cases, yet, since half the cases were not diagnosed during life, we can not feel very proud of our ability to recognize this type of nephritis.

CHRONIC GLOMERULAR NEPHRITIS.

The picture is much brighter when we turn to the group of 17 cases in which chronic glomerular nephritis was found postmortem; here we find almost no mistakes in diagnosis. Only in 2 cases was the nephritis unsuspected, and in the 13 of the remaining 15 cases the type of disease was correctly stated as well. One may doubt, however, whether the urinary examination alone would have been sufficient to steer us aright. The correct diagnosis, as it stands in the records, may well have depended as much on the other clinical features—the pale, pasty face, the long-standing general edema and the uremic manifestations.

Urines as highly albuminous, as lacking in urea, as thickly sown with fatty elements (free and on casts) have occurred in various other conditions mentioned in other parts of this paper. (See Tables 7 and 8.)

Yet, on the whole, the success in the diagnosis of this type of case is in striking contrast with the large percentage of failures in other forms.

CHRONIC INTERSTITIAL NEPHRITIS.

Out of the 35 cases classified under this heading at autopsy, 19, or about one-half, were recognized as nephritis of some type, and of these there were 5 in which the full title, chronic interstitial nephritis, appears on the antemortem record. In the remaining 14 cases recognized as nephritis of some type, the diagnosis was chronic glomerular nephritis in 8, while 3 others are recorded simply as arteriosclerosis, 1 as cardiorenal, and 2 as uremia.

In the 16 unrecognized cases the diagnoses were very varied; pernicious anemia, phthisis, epidemic cerebrospinal meningitis, sarcoma of lung, typhoid, cerebral hemorrhage (2 cases), valvular heart disease, cirrhosis of the liver, and cancer of the bladder are some of them.

I have included among the 19 successfully diagnosed cases 3 in which the diagnosis stands arteriosclerosis, because, in the terminology of some, this term is used in a wide sense so as to include renal anomalies which others would call chronic interstitial nephritis.

It should further be noted that in the postmortem record of 4 of the 16 cases not recognized during life, the lesion is expressly stated to be slight, and that in 3 more it was unilateral with a hypertrophied kidney on the other side. If we leave out these 7 cases, as I think we should, the failures are reduced to 9, or 32 per cent., as against 19, or 68 per cent., of successes.

It appears, then, that we were right about two-thirds of the time in this (brief) series, and in the remaining one-third the patients were under observation for so short a time that the failure of diagnosis is relatively venial.

On the whole, the urine of the cases proved at autopsy to be of the chronic interstitial type is fairly like the text-book accounts. Albumin was absent in 3 cases and very scanty in 13 cases. In the remaining 22 cases, about two-thirds of the whole series, it ranged from a large trace to .7 per cent.; in 5 cases out of the 35 it reached .25 per cent. or more.

TABLE III.—CHRONIC GLOMERULAR NEPHRITIS.

Case No.	Autopsy No.	Anatomic diagnosis.	Clinical diagnosis.	Urine.				
				Average 24-hr. amt. of urine.	Specific gravity.	Albumin. per cent.	Urea.	Sediment.
1	31	Chronic glomerular nephritis.	Chronic glomerular nephritis.	1400 c.cm.	1020	⅛-½	1.01%	Many hyaline, fatty and blood casts.
2	220	Chronic glomerular nephritis.	Chronic glomerular nephritis.	400 c.cm.	1017	½-1	13.5 grams.	Many hyaline, fatty and blood casts, some with cells adherent.
3	290	Chronic glomerular nephritis.	Chronic glomerular nephritis. Chronic diphtheritic colitis.	.....	1011	¼+	.....	Many hyaline, fatty and blood casts, and waxy casts.
4	492	Chronic glomerular nephritis.	.....	.....	1008	⅛	.....	Occasional granular casts with cells adherent.
5	534	Chronic glomerular nephritis.	Chronic glomerular nephritis.	480 c.cm.	1013	¼	1%	Brown granular, epithelial, fatty, hyaline and waxy casts.
6	663	Chronic glomerular nephritis, with hepatitis, etc.	Chronic hepatitis.....	690 c.cm.	1012 1016	Trace to 0.1	1.39%	Occasional hyaline and granular casts with blood, fat cells adherent. Few fibrinous casts.
7	676	Chronic glomerular nephritis.	Chronic glomerular nephritis. (Sec. atrophy).	330 c.cm.	1013	⅛	3.6 grams.	Rare hyaline and granular casts with fat or cells adherent.
8	699	Chronic glomerular nephritis.	Chronic glomerular nephritis. (Sec. atrophy).	678 c.cm.	1010	Slight trace.	3 to 6 grams.	Rare hyaline and granular casts with fat adherent. Few waxy casts.
9	704	Chronic glomerular nephritis.	Chronic interstitial nephritis.	900 c.cm.	1008	0.2	14 grams.	Same as last case.
10	711	Chronic glomerular nephritis.	Chronic glomerular nephritis.	1200 c.cm.	1012	0.1	8.7 grams.	1st examination, rare granular casts. 2nd examination, no casts.
11	775	Chronic glomerular nephritis.	Aortic regurgitation, anemia.	840 c.cm.	1012	⅛	10.6 grams.	Few hyaline and granular casts.
12	779	Chronic glomerular nephritis.	Chronic glomerular nephritis.	900 to 2000	1011	⅛	13 grams.	Hyaline, granular, fatty, cellular, blood, and waxy casts.
13	168	Chronic glomerular nephritis.	Chronic glomerular nephritis.	Not estimated (coma).	1010	¼	.....	Occasional hyaline and granular. Some cells, occasional fat, occasional blood casts. Occasional hyaline, granular, fatty and blood casts; a few with cells adherent.
14	139	Chronic glomerular nephritis. (Slight). Secondarily contracted kidney.	Chronic nephritis.....	2700 c.cm.	1008	0.16⅔	0.63%	Granular epithelial and fatty casts.
15	811	Chronic glomerular nephritis.	Chronic glomerular nephritis.	350 c.cm.	1010	0.2	3.6 grams.	At times none. At other times fairly numerous hyaline, granular and waxy casts. No fat in six weekly examinations. Dropsical and uremic manifestations marked.
16	883	Chronic glomerular nephritis.	Chronic glomerular nephritis.	1200 c.cm.	1013	⅛	1.9%	Few hyaline, fine and coarse granular casts. Signs as above.
17	915	Chronic glomerular nephritis.	Chronic glomerular nephritis.	650 c.cm.	1022	1.5	10 grams.	Many hyaline, granular, fatty and waxy casts.

TABLE IV.—CHRONIC INTERSTITIAL NEPHRITIS.

Case No.	Autopsy No.	Anatomic diagnosis.	Clinical diagnosis.	Average Urine.					Remarks.
				24-hour amount.	Spec. grav.	Albumin, per cent.	Urea.	Sediment.	
1	1136	Chronic interstitial nephritis. Hypertrophied prostate and double hydronephrosis.	Arteriosclerosis. Angina pectoris.	650 c.cm.	1011	Trace.	1%	Few hyaline and granular casts. Occasional red corpuscles.	
2	1104	Chronic interstitial nephritis. Pernicious anemia.	Pernicious Anemia.	1100 c.cm.	1007 1009 1009	0 0 0	1.1%	No casts.	
3	1069	Chronic interstitial nephritis. Nephrolithiasis.	Ulcer of foot. Myocarditis.	850 c.cm	1013	Trace.	.....	No casts.	
4	1022	Chronic interstitial nephritis. Bronchopneumonia.	Chronic glomerular nephritis. Arteriosclerosis.	1500 c.cm.	1008	0.1	.....	Few hyaline and granular casts, some with renal cells adherent.	
5	1005	Chronic interstitial nephritis. (Slight). Cerebral hemorrhage.	Cerebral hemorrhage.	.....	1011	1/6	0.6%	Rare hyaline and granular casts.	
6	998	Chronic interstitial nephritis. Pneumonia.	Chronic interstitial nephritis. Pneumonia.	1000 c.cm.	1013	Slight trace.	2%	No casts.	
7	974	Chronic interstitial nephritis. (Slight)-Sarcoma of shoulder and lung.	Sarcoma of shoulder.	.....	1015	0	0	None.	
8	904	Chronic interstitial nephritis. General tuberculosis.	Cirrhosis of the liver. Myocarditis.	750 c.cm.	1015	Trace.	5 grams.	Few hyaline and fine granular casts.	
9	866	Slight chronic interstitial nephritis. Pneumonia.	.....	1500 c.cm.	1015	Slight trace.	.....	Occasional hyaline and granular casts, with cells or blood adherent.	
10	862	Chronic interstitial nephritis. Cerebral hemorrhage.	Cerebral hemorrhage.	.....	.....	1/4	.....	Many hyaline and granular casts with fat and blood adherent.	
11	840	Chronic interstitial nephritis. Unilateral (stone). Duodenal ulcer.	Crushed shoulder.	.....	1007	Slight trace.	.....	Rare hyaline and granular casts.	
12	834	Chronic interstitial nephritis.	Chronic glomerular nephritis.	450 c.cm.	1014	0.1	5 grams.	Rare hyaline and granular casts, one or two with fat adherent.	Marked nocturnal polyuria 3 to 4 quarts before entering hospital.
13	827	Chronic interstitial nephritis; pyelonephritis. Cystitis.	Cerebral embolism.	1650 c.cm.	1016	Slightest possible trace.	.....	No casts. Much pus.	
14	825	Chronic interstitial nephritis. Cerebral hemorrhage.	Chronic interstitial nephritis.	850 c.cm.	1012	Slight trace.	17 grams.	Few hyaline and granular casts, with occasionally a cell adherent.	Nocturnal polyuria; retinal hemorrhages.
15	821	Chronic interstitial nephritis. Syphilitic hepatitis.	Chronic interstitial nephritis.	1800 c.cm.	1012	Slightest possible trace.	27 grams.	Rare casts, at times (hyaline and granular). At other times none.	
16	818	Slight chronic interstitial nephritis. Cerebral hemorrhage.	Cerebral hemorrhage.	.....	1020	1/8	.....	Many hyaline and finely granular casts.	
17	787	Unilateral chronic interstitial nephritis. Cystitis, pyelonephritis.	Arteriosclerosis. Pyelonephritis, cystitis.	670 c.cm.	1028	Trace.	.....	Few hyaline, granular, blood and epithelial casts.	
18	777	Slight chronic interstitial nephritis. Phthisis.	Phthisis.	.....	1021	0	.....	Negative.	
19	770	Unilateral chronic interstitial nephritis.	Ulcerative colitis.	1	1020	Slightest possible trace.	8 grams.	No casts.	
20	764	Chronic interstitial nephritis. Aortic stenosis.	Uremia.	.....	1009	Large trace.	.....	No casts.....	Coma; no paralysis.
21	643	Unilateral chronic interstitial nephritis. Typhoid pneumonia.	Typhoid.	1300 c.cm.	1020	Slightest possible trace.	.....	Numerous hyaline, fine, coarse granular casts, some with cells adherent.	
22	636	Chronic interstitial nephritis.	Chronic glomerular nephritis.	1000 c.cm.	1020	1/8	2.9%	Many hyaline and fine granular casts, with occasional cell adherent.	Delirium.
23	522	Chronic interstitial nephritis.	Cancer of bladder. Pyelitis.	.....	1012	1/4	0.8%	No casts.	
24	496	Chronic interstitial nephritis.	Mitral regurgitation.	2000 c.cm.	1010	1/8	1.4%	Few hyaline and granular casts.	
25	453	Chronic interstitial nephritis.	Chronic glomerular nephritis.	1600 c.cm.	1012	1/4	0.8%	Rare hyaline or granular casts, with blood, fat or cells adherent.	
26	394	Chronic interstitial nephritis.	Delirium tremens. Uremia.	600 c.cm.	1010	1/2	1%	Very few granular casts with fat and fatty cells adherent.	
27	298	Chronic interstitial nephritis.	Chronic interstitial nephritis.	1000 c.cm.	1009	0.1	12 grams.	Rare hyaline and granular casts.	
28	289	Chronic interstitial nephritis.	Cardiorenal.	1400 c.cm.	1021	1/4	15 grams.	Many hyaline casts with blood, fat and cells adherent.	
29	280	Chronic interstitial nephritis.	Chronic glomerular nephritis.	1200 c.cm.	1013	1/8	1.3%	Rare hyaline and granular cast with occasional cells or fat drops adherent.	
30	265	Chronic interstitial nephritis.	Chronic glomerular nephritis.	1000 c.cm.	1015	0.2	14 grams.	Much fat adherent to hyaline, granular and waxy casts; also some blood cells and brown granular débris on casts.	
31	245	Chronic interstitial nephritis.	Arteriosclerosis.	2000 c.cm.	1020	0.16⅔	.....	Few pure hyaline casts.	
32	233	Chronic interstitial nephritis.	Chronic interstitial nephritis.	850 c.cm.	1012	0.1	12 grams.	No casts in three examinations. Rare cast with fat adherent at one examination.	
33	231	Chronic interstitial nephritis.	Cerebrospinal meningitis.	.....	1026	1/8	2.2%	Few granular casts with cells adherent.	
34	174	Chronic interstitial nephritis.	Chronic glomerular nephritis.	1000 c.cm.	1030	Slight trace.	.....	Numerous hyaline, granular, blood, fatty and epithelial casts.	
35	161	Chronic interstitial nephritis, with endocarditis.	Chronic glomerular nephritis with endocarditis.	1100 c.cm.	1112	0.1	1.2%	Many granular, brown granular, epithelial, blood, fatty and waxy casts.	

Casts were absent in 9 cases, and very scanty in 18 more, but in the remaining 8 cases, about one-fourth of the total, they were abundant. Hyaline or granular casts alone were found in 10 cases. In the remaining 25 cases, fat drops, red blood corpuscles or other cells were adherent to the casts. Fat drops and fatty casts were very abundant in 5, one-fourth of the cases. Waxy casts were mentioned in 2.

The specific gravity was persistently low in 24, or a little over two-thirds of the cases; in most of the others the presence of normal or high gravity could be accounted for by the coincident fever or other temporary disturbances.

Urea was low in some, but not lower than is frequently the case in many other diseases, not involving the kidney. We shall return to the discussion of the value of urea estimation in nephritic cases later in the course of this paper.

In connection with this series I wish to record a case of chronic polycythemia with splenic tumor, in which I watched the urine for over two years and found always the picture supposed to be characteristic of chronic interstitial nephritis, namely, increased 24-hour quantity, persistently pale color, low gravity, a slight trace of albumin and a few hyaline and granular casts. Yet, at the autopsy only chronic passive congestion was found.

AMYLOID DISEASE.

Owing to the nature of the cases admitted to the Massachusetts General Hospital, where this work has been done, amyloid is a rare condition with us, only 6 cases occurring in 1,200 autopsies. In none of these cases was the diagnosis of amyloid kidney definitely made during life. Four of them were called chronic diffuse nephritis, and in these cases we think the diagnosis of amyloid ought to have been made evident antemortem, since there was a clear history of syphilis in 3 of them, and a long-standing spinal abscess in the fourth, while in none of the 4 was the heart enlarged. These facts, taken in connection with the presence of a long-standing, generalized edema and a urine showing evidence of some type of nephritis, ought, I think, to be sufficient to suggest, at least, the strong probability of amyloid kidney.

The urine itself was not in any way characteristic and varied a great deal in the different cases. One case showed but a small amount of albumin and no casts. In all the others the amount of albumin and the number of casts was large, no special varieties of casts predominating. The specific gravity was high in 2 cases, low in 2 and moderate in 2, while the total amount of urine and the percentage of urea showed no constant law.

CHRONIC PASSIVE CONGESTION.

Thirty-five cases were studied. The specific gravity was high in 18 (½) cases, low in 9 (¼), and within normal limits in 8 (¼). This is not in accordance with most text-book statements in which high gravity is laid down as a constant or nearly constant feature.

The total amount of urine in 24 hours was reduced in every case, except one, the case of chronic polycythemia referred to above.

Albumin was absent in 2 cases. Slightest possible trace in 5. Trace or slight trace in 14, large trace in 1. From .1 to .25 per cent. in 6; .25 to .5 per cent. in 4. Only in one-half of the cases, then, did the amount of albumin give any help in the differential diagnosis from nephritis.

Casts were abundant in 12, scanty in 11, and absent in 12. Hyaline, granular and epithelial casts make up the bulk of those found, but blood and fat on casts are also mentioned in 7.

Urinalysis may indicate the presence of nephritis when nothing but passive congestion is to be found at autopsy to account for it.

In most of these cases, the diagnosis is not difficult because there is so much evidence besides the urinary analysis to set us right. But were we dependent on the urine alone we could not possibly distinguish many of these cases from some type of nephritis, and, in fact, in two cases the diagnosis of nephritis was made. One of these, diagnosed antemortem as amyloid, might well have deceived the very elect, for there was a chronic phthisis to suggest amyloid and urinary anomalies fully as marked as in the cases of actual amyloid recorded.

(To be continued.)

TABLE V.—AMYLOID DISEASE.

Case No.	Autopsy No.	Age.	Cause.	Anatomic diagnosis.		Clinical diagnosis.	Date.	Urine.			
				Heart.	Kidney.			Spec. grav.	Albumin, per cent.	Urea, per cent.	Sediment.
1	74	27	Pott's disease.	Small.	Amyloid.	Pott's disease with chronic diffuse nephritis.	.....	1006 1017	½	0.94	Hyaline, granular, fatty and waxy, coarse and brown granular casts.
2	78	42	Syphilis.	Small. 6th entry for this disease.	Amyloid.	Chronic parenchymatous nephritis.	.....	1034 1025	½	2.6	Hyaline and granular casts, some with fat and cells adherent.
3	317	38	Syphilis.	325 grams.	Amyloid.	Laparotomy for fibroid.	Aug. 22. Aug. 29. Sept. 6. Sept. 7.	1015 1022 1013 1017	No albumin. Trace. 0.2 1.6 ½ ¾	1	None. (Died on 11th).
4	417	58	Syphilis.	Small. 215.	Amyloid.	Cancer of neck.	.....	1017	½ ¾	1	Rare hyaline casts.
5	456	46	Syphilis.	288 grams.	Amyloid with terminal pneumonia.	Chronic diffuse nephritis.	.....	1011	⅛ ½	6.5 grams. 17 grams.	One hyaline cast. Many granular casts with blood, cells and fat adherent.
6	691	45	Syphilis.	235 grams.	Amyloid. Streptococcus sepsis.	Chronic diffuse nephritis. (Opium).	.....	1025 1026 1024	1.2 0.7	1.89	Many hyaline and granular casts, with fatty cells and blood adherent. Many epithelial and blood casts.

Wild Licorice.—The bulk of the importations of licorice root are absorbed by tobacco manufacturers, who use it to flavor tobacco and snuff. According to the *Pharmaceutical Era*, sometimes large enough quantities of this flavoring are used to warrant the term adulteration. Most of the licorice grows wild in the Tigris and Euphrates valleys. The plants are regularly cut; in fact, the harvesting of licorice is almost an industry. The imperfect or crooked sticks are used for fuel, but the good ones are exported in large quantities, usually to England or America.

MODELS FOR TEACHING THE ANATOMY AND OPERATIVE TREATMENT OF INGUINAL HERNIA.

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CHICAGO.

Every teacher of surgical anatomy and operative surgery will no doubt agree with me when I say that it is exceedingly difficult for students and even for practitioners to comprehend the subject of inguinal hernia.

With a view of simplifying this subject, I have devised a model which is so constructed that it may be readily taken apart and transported.

For some years, Dr. E. Wyllys Andrews has employed a pillow covered with several layers of cloth of different colors to demonstrate his modification of the Bassini operation. The desirability of presenting the subject of hernia in a plain and easily comprehensible manner caused me to devise a frame on which the various layers of the abdominal wall would be represented by different colors of sweater cloth and muslin.

The advantages of my model are that it can be utilized to show all the constituents of the abdominal wall, both from the anterior and posterior aspects. It permits the teacher to give the student a conception of the anatomy of the inguinal region far more easily than any demonstration on the cadaver. I use both of these models, not only in the classroom, but to preface operations for inguinal hernia by showing the technic on one or both of the models. These demonstrations can be supplemented by the usual work on the cadaver and by demonstration on the living subject during the course of an operation for the radical cure of an inguinal hernia. During the last session of the American Medical Association at Atlantic City, I utilized these models to demonstrate my paper on the anatomy and radical cure of inguinal hernia before an audience of over four hundred persons, and I was assured by those sitting at some distance that every detail could be distinctly seen. At the request of many teachers of surgery who were present, I have decided to present this model to the profession, and can warmly recommend the adoption of these or of similar models in the teaching of the more difficult subjects of modern surgery.

Fig. 1. Frame of the model. (1) Left or lower half of the frame. (2) Right or upper half of the frame. (3) Set of screw eyes placed well forward, but inside of frame, to which the external oblique is attached by means of hooks. (4) Set of eyes inserted into back portion of inner aspect of frame, to which the internal oblique and transversalis are attached together. (5) Screw eye, to which outer end of tape representing Poupart's ligament is attached. (6) Screw eye, to which outer end of tape representing Poupart's ligament is attached.

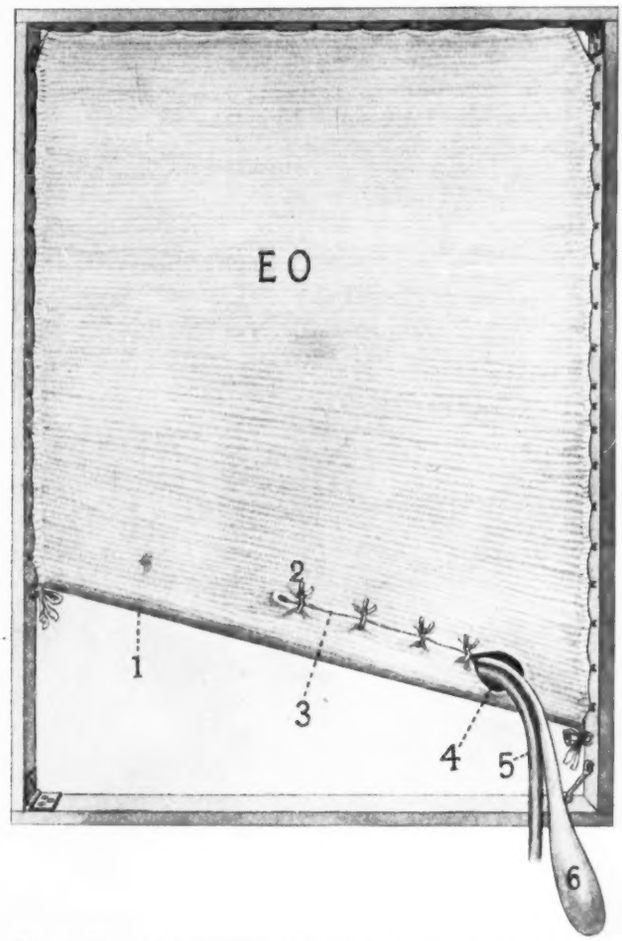

Fig. 2. EO, white sweater cloth, with fibers running down and inward to represent the external oblique muscle. (1) Tape representing Poupart's ligament, to which the external oblique is sewn along its entire sheath, and the internal oblique and transversalis to its outer half (Compare with Fig. 3). (2) Silk sutures temporarily closing slit in the sweater cloth, representing external oblique; the edges have been hemmed so as to prevent fraying. (3) Slit artificially made in the external oblique; edges hemmed to prevent fraying. The establishment of this slit saves cutting the external oblique aponeurosis every time the model is used, and, at the same time, the sutures (2), placed as they are in this figure, show the final step in the Bassini operation. (4) Opening in external oblique; edges hemmed to prevent fraying. This opening represents the external abdominal ring, through which may be seen emerging the spermatic cord (5), represented by heavy rubber tubing; and (6) the linen bag which increases in size towards its lower end, representing the sac of an inguinal hernia.

A reference to the description given with each illustration will perhaps explain more clearly than any

amount of text the construction and practical workings of the two models.

The first model is shown in Figs. 1 to 10, inclusive, and is designed to give an anteroposterior view of the inguinal region. The frame consists of four strips of wood, 1 inch in thickness and 2 inches in width. The horizontal pieces are 36 inches long; vertical pieces 46 inches. One horizontal and one vertical piece are connected by means of a hinge, and all four are held together by means of hooks and eyes, seen at the lower right hand and upper left hand corners of the frame. Two sets of screw eyes are used, one placed close to the anterior portion of the frame (3 in Fig. 1), and the other inserted into the back portion of the inside of the frame. The abdominal muscles are made of sweater cloth, which can be obtained in any manufactory of sweaters and knit

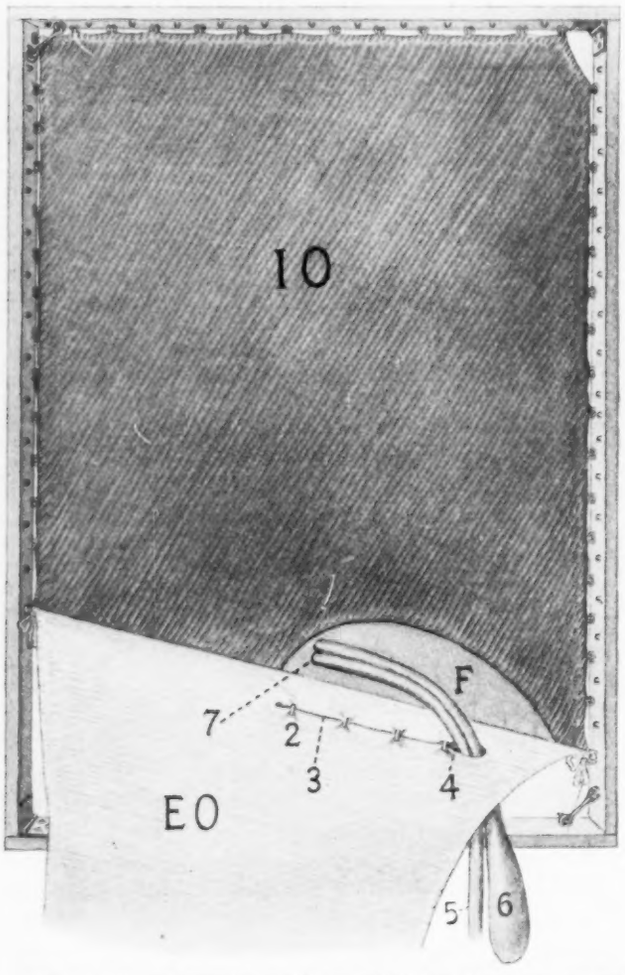

Fig. 3. IO, red sweater cloth, in which the fibers run up and inward to represent the internal oblique. EO, the external oblique, has been unhooked and allowed to fall so as to demonstrate the deeper muscles. (2) Four sutures closing the artificially made slit in the external oblique muscle, described in Fig. 2. (3) Slit referred to in Fig. 2. (4) External abdominal ring. (5) Spermatic cord. (6) Hernial sac made of linen bag, which increases in length from the external abdominal ring to its lower end. (7) Internal abdominal ring, represented by an opening made in F, the transversalis fascia.

goods. This material can be obtained in any length, but the widest piece is only eighteen inches. In my own model the external oblique muscle was made of white sweater cloth, the internal oblique of red, and the transversalis of green.

Great care was taken to imitate, in sewing the pieces together, the natural course of the fibers of these muscles, as will be seen by a reference to Figs. 2, 3 and 4.

A strong piece of tape is used to represent Poupart's ligament, the upper end being attached to the screw eye 5 in Fig. 1; the lower to 6, to represent the normal obliquity. To this strong tape all of the three layers of sweater cloth representing the abdominal muscles are sewn. In addition, a piece of tape is used to sew to the edge of each of the layers of sweater cloth representing the abdominal muscles, in order to prevent fraying.

The external oblique (E. O. in Fig. 2) has a separate set of hooks attached to the tape along its edge, so that it can be unhooked from the anterior set of screw eyes (3 in Fig. 1) and turned back, in order to demonstrate the deeper layers (Fig. 3).

A slit is cut in this external oblique (3 in Fig. 2), which represents the incision ordinarily made in this muscle to expose the canal prior to any of the modern

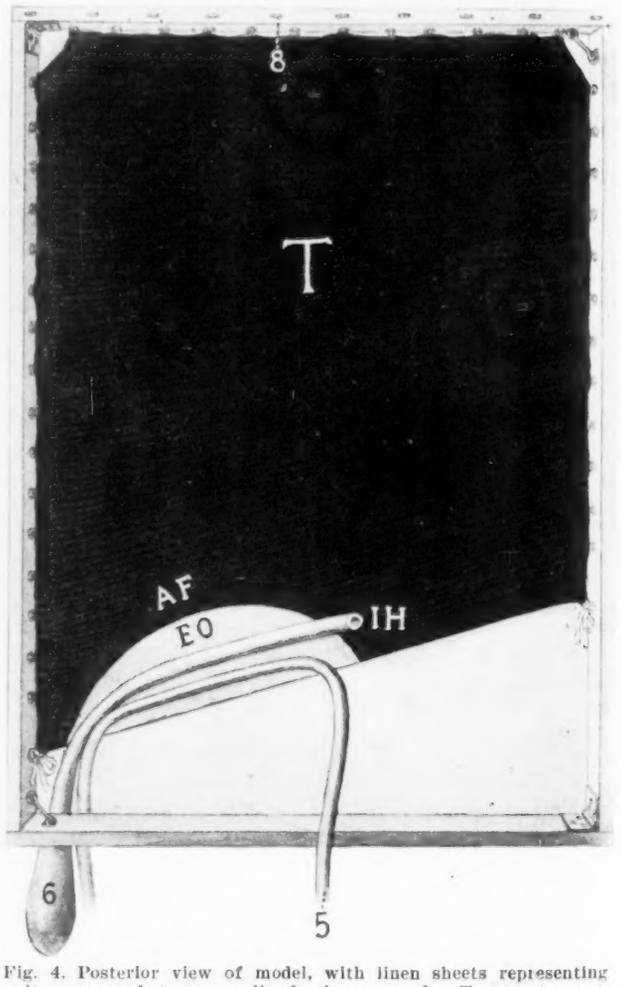

Fig. 4. Posterior view of model, with linen sheets representing peritoneum and transversalis fascia removed. T, green sweater cloth, with fibers running almost transversely, representing the transversalis muscle. IO, the internal oblique, and T, transversalis muscles, are sutured together along their edges and also to the outer half of the tape representing Poupart's ligament (Fig. 3). At the inner end of Poupart's ligament the student can get the idea of how these two muscles unite to form the conjoined tendon seen in this picture. AF represents the arching fibers of the transversalis. Those of the internal oblique are seen in Fig. 3. EO, external oblique aponeurosis, seen from its posterior aspect. IH, upper end of linen bag, representing hernial sac, the lower end of which is seen as 6. (5) Posterior end of rubber tube which represents spermatic cord as it descends toward the base of the bladder. If desirable, a number of pieces of colored ribbons can be made to accompany the hernial sac and rubber tube, representing the cord, in order to show the spermatic artery and veins. (8) Set of screw eyes inserted on posterior aspect of frame, to which the muslin sheets, representing the peritoneum and transversalis fascia (see Fig. 5), are attached.

operations except that of Kocher. The slit can be temporarily closed before using the model by means of four

sutures of ordinary twine or silk, which can be cut during demonstrations so that the edges of the external oblique from the external to the internal abdominal rings can be held apart (Fig. 7) by retractors or artery forceps.

The red sweater cloth is turned in at its lower edge from a point corresponding to the outer half of Poupart's ligament to a point close to its inner half, in order to represent the arching fibers of the internal oblique, beneath which the spermatic cord and hernial sac pass. The same treatment is given the inner half of the lower edge of the green sweater cloth, representing the transversalis muscle.

Into the posterior aspect of the upper horizontal piece of the frame a third set of screw eyes is inserted (8 in Fig. 4). To this set, two layers of heavy muslin, which can be sewn together at their upper end, are attached, in order to utilize the same set of hooks. The more anterior of these two represents the transversalis fascia (Fig. 6), and at a point corresponding to about the middle of Poupart's ligament an opening is made, which represents the internal abdominal ring. The most posterior of all the layers is the second muslin sheet, representing the peritoneum (Fig. 5). At a point opposite the internal abdominal ring the internal opening of the hernial sac can be made, and, if desirable, any substance which represents the intestines and omentum may be utilized to fill the hernial sac, in order to represent either an enterocele or an epiplocele, or both.

The hernial sac is hooked into little loops of thread at the edges of the opening in the peritoneum, so that it can be pulled away when the radical cure is demonstrated.

The spermatic cord is represented by a piece of the webbed rubber tubing which is sold with gas stoves, and the hernial sac by a long piece of muslin, which can be sewn in the form of a sac, increasing in size towards its lower end (6 in Fig. 7). The spermatic cord, or, rather, the tube representing it, can be allowed to drop between the transversalis fascia and the peritoneum, to show how it passes towards the bladder during life.

Fig. 8 shows how the model can be used for teaching the various inguinal hernia operations. The sac can be transfixed and ligated, and allowed to drop back (S in Fig. 8), or it can be detached from its loops, to preserve it. Then, in order to complete a demonstration of the Coley modification of the Bassini operation, a twine or silk suture passes through the internal oblique and transversalis above the cord, and is inserted into the tape representing Poupart's ligament. Three sutures are placed below the cord, in order to bring the internal oblique and transversalis down to the shelving edge of Poupart's ligament. The cord is held aside by a piece of

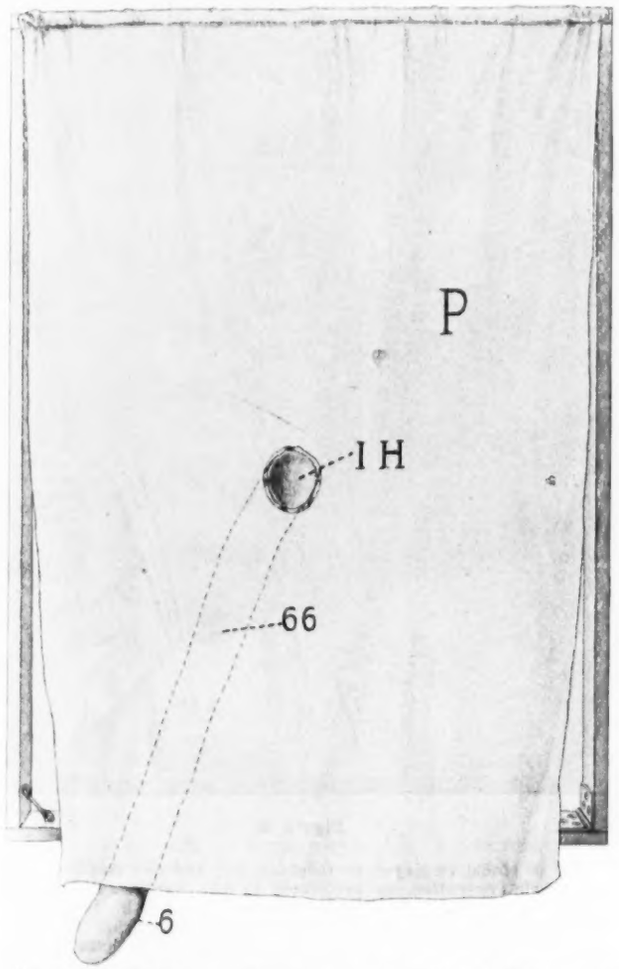

Fig. 5. P, muslin or linen sheet, representing peritoneum, to which the transversalis is sutured at its upper border, and both sheets hung from a set of screw eyes (8), seen in Figs. 4 and 6, and marked 8. IH, the opening artificially made opposite a point a little above the middle of Poupart's ligament, represents the inner opening of the hernial sac and marked IH. 66, hernial sac seen in outline. Its lower end seen below the frame as 6.

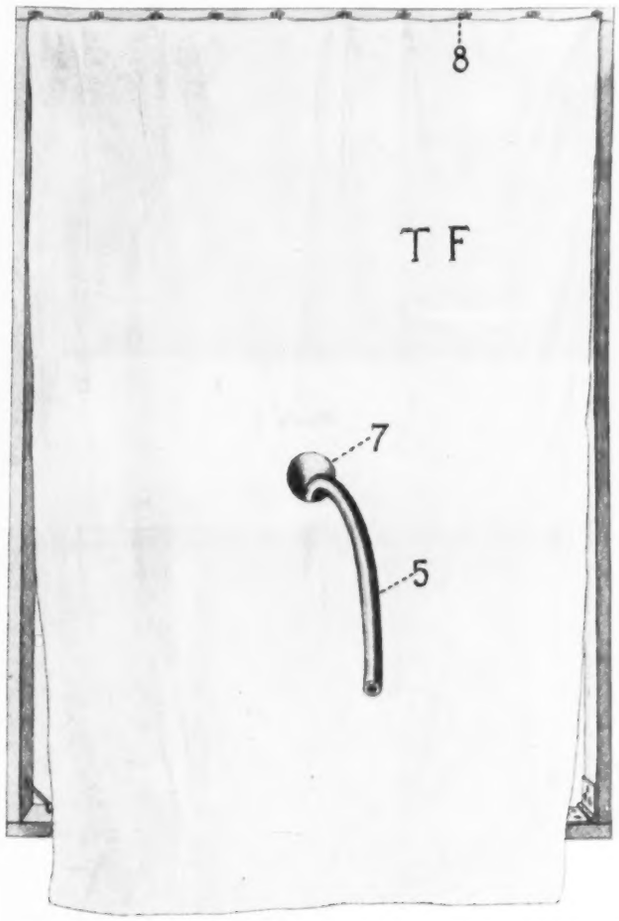

Fig. 6. TF, linen or muslin sheet, representing transversalis fascia, sewn with the linen sheet, seen in Fig. 5, and representing the peritoneum, to a piece of tape into which hooks are inserted, and these suspended from a set of screw eyes marked 8 on posterior aspect of upper border of frame of model. (5) Posterior end of rubber tubing, representing spermatic cord as it passes towards the base of the bladder. (7) Opening made in muslin sheet, representing the transversalis fascia, which corresponds to the internal abdominal ring, situated a little above the middle of Poupart's ligament.

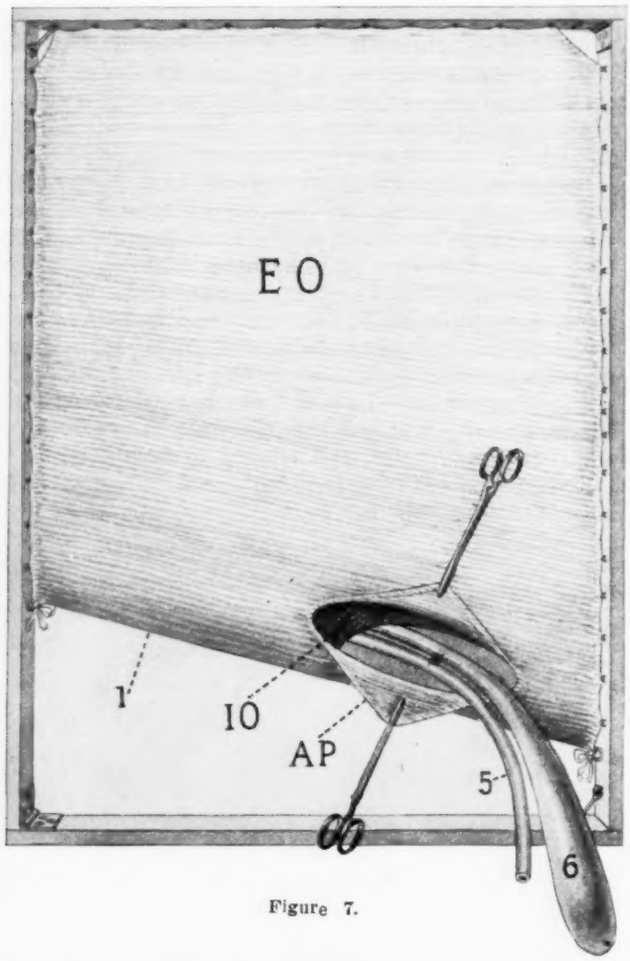

Figure 7.

Fig. 7. Anterior view of model, with edges of slit (AP) in external oblique aponeurosis, seen in Fig. 2, held back by two artery forceps. This shows the arching fibers of the internal oblique (IO), beneath which appear the spermatic cord (5) and the hernial sac (6). (1) Tape, representing Poupart's ligament, to which EO, the external oblique, is shown. This demonstration may be used to show either the anatomy of an inguinal hernia, or the first step of all of the modern radical cure of inguinal hernia operations except that of Kocher.

Fig. 8. Use of model in demonstrating the further steps of the Bassini operation. EO, external oblique aponeurosis, whose edges are held back, as in Fig. 7, by means of two artery forceps. TE, tape holding the rubber tube, representing spermatic cord (5), aside, in order to permit suturing of the deeper muscles. S, neck of hernial sac transfixed and tied off by means of a piece of silk. BC, suture inserted according to the Coley modification of the Bassini operation above the cord, bringing the internal oblique and transversalis to the inner aspect of Poupart's ligament. B, three sutures which are inserted below the cord in order to bring the internal oblique and transversalis, as well as their conjoined tendon, to the inner aspect of Poupart's ligament.

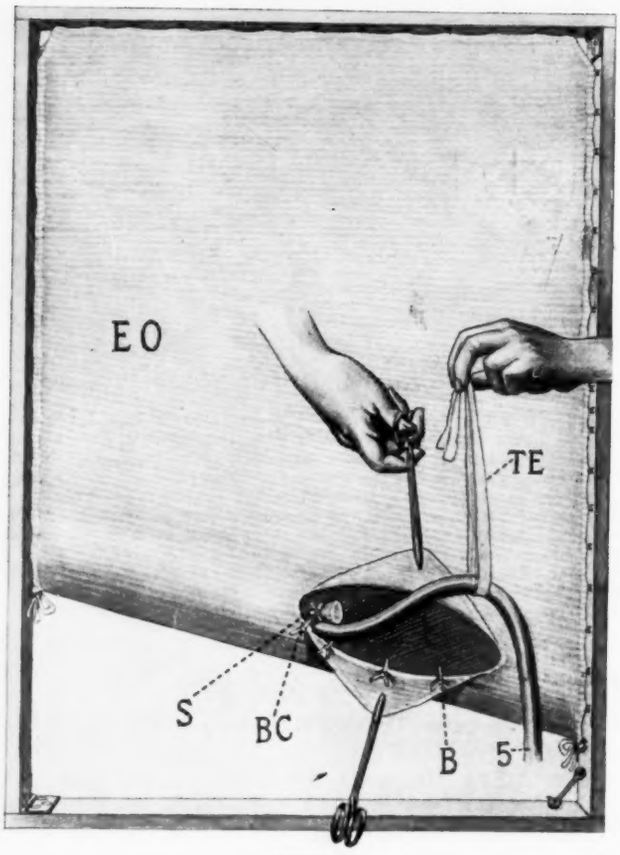

Figure 8.

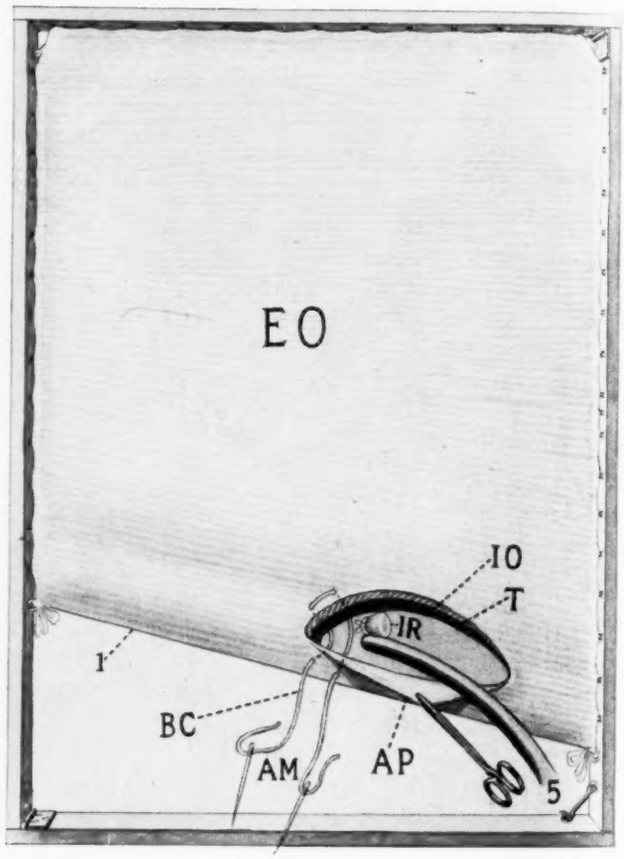

Figure 9.

Fig. 9. Model employed in teaching the Andrews modification of the Bassini operation, as performed by the writer. EO, external oblique aponeurosis; the lower edge of the slit in the external oblique aponeurosis, which extends from the external to the internal oblique rings, is shown as being retracted downward and outward as AP. (1) Poupart's ligament; IO, arching fibers of internal oblique; T, arching fibers of transversalis. (5) Spermatic cord; its upper end is seen to disappear at the internal abdominal ring IR. BC and AM, two threaded ends of suture which passes through edges of the external oblique, internal oblique and transversalis, in order to bring them over to the inner aspect of the external oblique aponeurosis close to Poupart's ligament (see text). The threads are shown as passing through the external oblique aponeurosis and emerging on its outer aspect to Poupart's ligament (1).

tape (Fig. 8). The effect of this strengthening of the posterior wall of the inguinal canal, which is the object of the Bassini operation, with the transplantation of the cord in front of the internal oblique and transversalis, can be seen in Fig. 10, which gives a view of the posterior aspect of the inguinal canal after the sutures of the Bassini operation have been inserted.

Fig. 9 shows how the model can be employed in teach-

Fig. 10. Posterior view of model, with peritoneum and transversalis fascia removed, the eyes to which they have been attached being shown as (8). T, transversalis muscle; (5) tube representing spermatic cord; to its right is seen one suture, and to its left four sutures, in order to demonstrate to the student how the posterior wall of the inguinal canal is strengthened in the Bassini operation and its Andrews modification by suturing the various muscles to Poupart's ligament.

Fig. 11. Box-shaped model described in text, which can be used for lateral view of layers of hernial region and operations. EO, external oblique muscle and aponeurosis. A slit has been cut in the sweater cloth and sewed up again (as in Fig. 2), leaving an opening (external abdominal ring), through which the hernial sac (6) and the spermatic cord (5) pass. IO, internal oblique muscle. T, transversalis muscle (observe arching fibers of IO and T). PL, Poupart's ligament (represented by a flat band of muslin). TF, transversalis fascia. At IAR the internal abdominal ring can be seen. P, peritoneum. At IHR the internal opening of the hernial sac can be seen. The spermatic cord (5) and hernial sac (6) separate at IAR, the former passing toward the bladder.

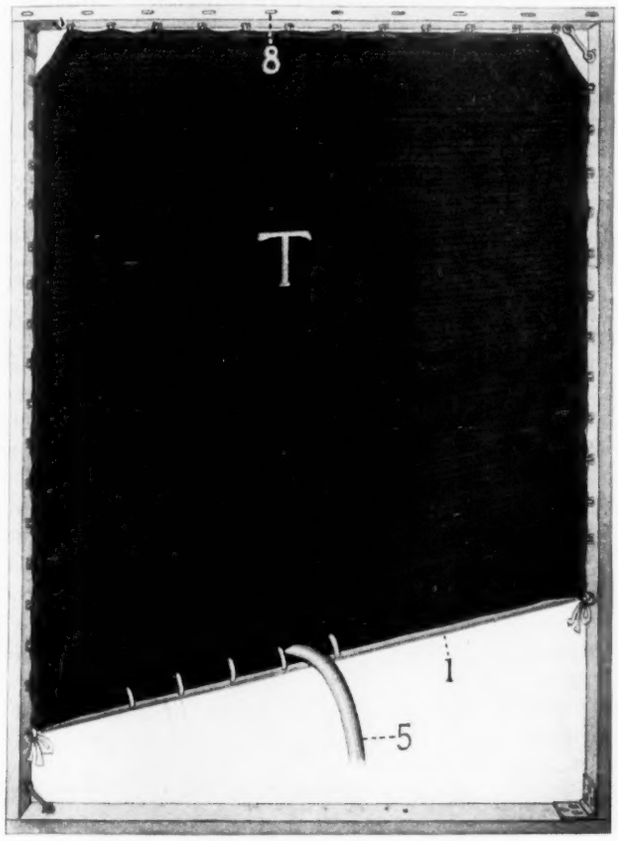

Figure 10.

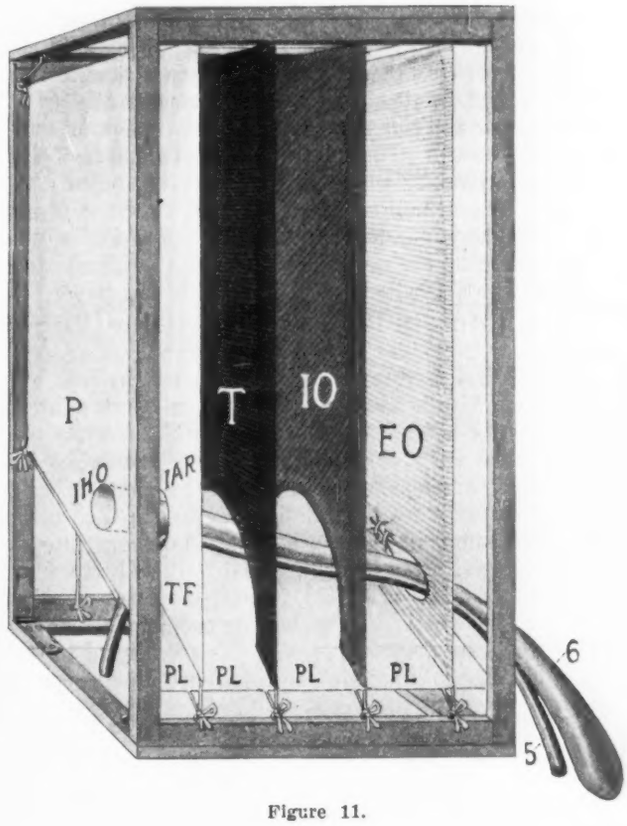

Figure 11.

Fig. 12. Front view of box-shaped model. EO, external oblique muscle and aponeurosis. IO, arching fibers of internal oblique. Muscle seen when slit made in external oblique has been opened and edges (AP) retracted by artery forceps. T, arching fibers of transversalis muscle. PL, Poupart's ligament. TF, transversalis fascia. (5) Spermatic cord, represented by rubber tube. (6) Hernial sac, represented by muslin bag, which tapers toward internal abdominal ring.

ing the Andrews modification of the Bassini operation, which aims to bring the internal portion of the external oblique aponeurosis behind the cord to further strengthen the posterior wall. I fully described this in a paper read at the last session of the American Medical Association.[1]

It has been impossible in such a model as this to imitate in an absolutely accurate manner the normal anatomic conditions, but for all practical purposes both of the models will suffice to illustrate the anatomy of inguinal hernia of the ordinary indirect and direct types, and at the same time they can be used for teaching the operations for the radical cure of such a hernia, with or

1. THE JOURNAL, Sept. 10, 1904.

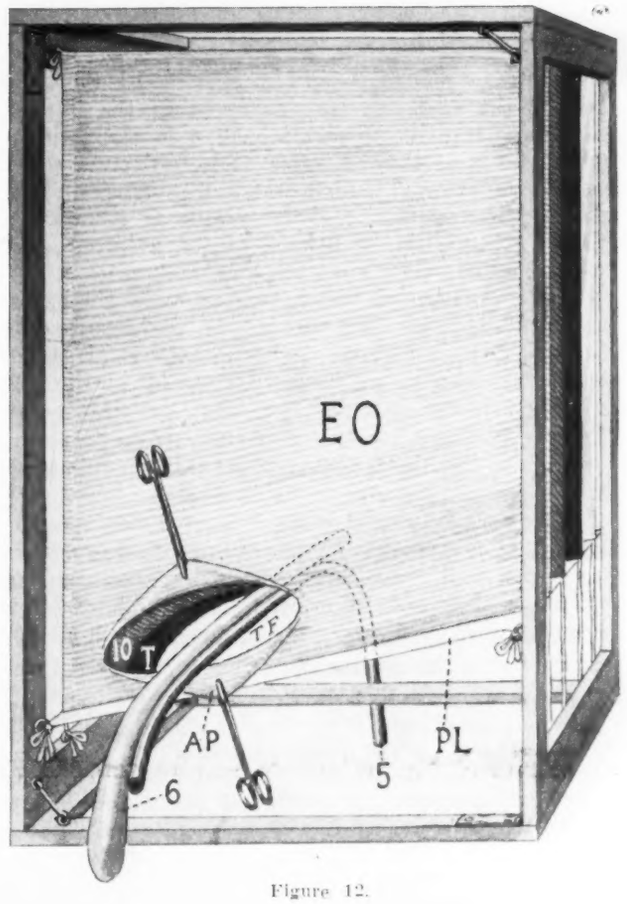

Figure 12.

without descent of testis. The anatomic points which could not be shown without making the model a less useful one are that it was impossible to imitate the relations of the aponeuroses of the three abdominal muscles, external oblique, internal oblique, and transversalis, to the rectus, whose anterior sheath they form by the union of their aponeuroses. Possibly at some future time I may devise some plan by which this can also be shown. For the same reason, neither of the models show the formation of the conjoined tendon, and the rôle which it plays in strengthening the posterior wall of the inguinal canal, a fact to which I called attention in a recent paper.[1]

The second model is simply constructed on the plan of a box, whose sides have been removed, in order to show the interior from all aspects. As will be seen by a reference to Figs. 11 and 12, the former shows a lateral and the latter a front view of the model. Such a plan enables us to show to the student, in a somewhat diagrammatic manner, the relations of the abdominal muscles, transversalis fascia and peritoneum, to each other, and at the same time it can be used to demonstrate the conditions existing in the abdominal wall, as best seen in such a lateral view after the various modern operations for inguinal hernia. The box-shaped model is constructed of four frames, two of which are hinged to each other, as shown in the figures. The dimensions of the vertical and horizontal pieces of the front and back of the frame are the same as in the anteroposterior model described above. The depth of the box-shaped model is 22 inches. The same colors are used for the different abdominal muscles as in the other model, the only differences being that each one is attached by a separate set of tapes to screw eyes inserted on the outside of the frame, and that they are sewed along their lower border to a wide piece of linen or muslin representing Poupart's ligament (P. L. in Fig. 11).

In the same manner as in the other model, the lower edges of the sweater cloths representing the internal oblique and transversalis are folded in to represent the arching fibers of these muscles, and similarly a slit is made in the external oblique which is closed again with sutures. The spermatic cord is made of silk-covered rubber tubing, and the hernial sac of a long muslin strip, whose edges are sewn together, and which is narrower at its upper end, where it passes under the arched fibers, and through the opening in the transversalis fascia (I. A. R. in Fig. 11), and terminates at (I. H. O.) the internal opening of the hernial sac (P in Fig. 11) in the peritoneum.

Figure 11 shows how the spermatic cord passes downward toward the bladder between the transversalis fascia (T. F.) and the peritoneum (P.).

The box-shaped model is much more difficult to construct, but the same may be said of it as of other models, that it will well repay the time and the slight expense involved in the construction for teachers to demonstrate the anatomy and radical cure operations on such models.

Portland, while not a large city, is peculiarly well fitted during the coming summer to provide for a large number of visitors. The Lewis and Clark Exposition will be in full swing at the time the American Medical Association meets, but, like all expositions, the attendance will not reach large numbers before the end of July or early in August, hence it may be confidently predicted that during the time of the meeting of the Association the town will not be uncomfortably crowded.—*Medicine.*

A SYSTEM FOR THE SURGICAL CORRECTION OF HARELIP AND CLEFT PALATE.*

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The reasons for the existence of any system of surgical treatment, and particularly, one applied to the correction of a special class of affections, must be: First, a demand for such service. Second, its necessity by reason of the large number of failures and extreme difficulty of accomplishing good results by other methods. Third, that it makes possible an enlargement of the field of surgical accomplishment in at least one direction.

The blind, the deaf and dumb, the tuberculous and the crippled almost everywhere have institutions established for their care. States and communities have recognized the duty of ministering to the comforts and necessities of the afflicted in these directions. Large sums are annually contributed for the maintenance of such work, and the encouragement of scientific investigation to increase the efficiency of its usefulness, but no such responsibility has been assumed by municipalities, nor has any notable portion of endowments of charitably inclined wealthy citizens been devoted to the relief of these unfortunate individuals, half dumb through malformation of their mouths and palates and doubly cursed by having the deformity and the even greater affliction of mental comprehension of difference from their fellows. Their harelips, scarred and ill-shapen faces mark them, through no fault of their own, as were branded the felons in barbaric times; speech communion with their fellows is almost wholly forbidden and they live ever in the dark shadow of misfortune.

NECESSITY FOR NEW AND SYSTEMATIC METHODS.

To those familiar with the literature and practical features of this subject, it is patent that all methods of treatment, whether prosthetic or surgical, have hitherto failed to be successful in a large number of cases and have not been able to meet the demands of many cases at all.

Numerous methods of operation and most ingenious forms of obturators have been from time to time suggested by authors, and adopted by practitioners, with more or less benefit in individual or special kinds of cases, and yet, a systematic classification of the forms with particular methods to be employed in the correction of each variety, showing comprehensive consideration of the distinct requirements that are found to be imperative, seems not to have received the attention that is due. This, the system that I now present to you in my own name, after years of practical study in the care of a large number of patients, seeks to accomplish in a considerable measure.

Its methods are necessarily founded on the ground work constructed by eminent surgeons, who have contributed to literature the results of their efforts in this direction, beginning probably with Lemonier, in 1776, as the first to attempt to close palate fissures by surgical means, followed by Eustache in 1799, von Graefe in 1876, Roux in 1879, Warren of Boston, 1820, Diffenbach, Liston, Sir William Fergusson,[1] the real author

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-fifth Annual Session, June, 1904. The article has been abbreviated by the omission of part of the illustrations. The entire article appears in the reprints.

1. Sir William Fergusson, International Clinics, 1877.

of successful staphylorrhaphy; Sedilot, Pancoast, William Garretson, Wolf,[2] Erdman, Billroth,[3] von Langenbeck, Trilet,[4] and a host of great surgeons, past and present, who, despite great discouragement—for this work is ever discouraging to surgical procedures when compared with other fields of operation—have each lent some share of personal skill and ingenuity to aid the perfection of the operative technic necessary to ensure the ultimate success of the work.

ORIGINALITY.

The operation for reduction of the width of the fissure, in combination with the use of the appliance as

Fig. 1.—Cast of the mouth of a baby with single harelip, as in Figure 2, with the characteristic enlarged turbinate.

described, is original with me, and I first performed it in 1897.

The methods of preparatory treatment of infants for the correction of facial deformity in lip cases are, so far as may be judged from careful study of the literature, also original with me.

Fig. 2.—Baby with single harelip. Nose flattened and drawn to one side.

Various minor steps in the operative technic have been developed from time to time, without previous knowledge of others having introduced them, and are believed to be original.

CLASSIFICATION.

The following is a classification that I have previously reported in other papers, and is designed to cover the important considerations from a surgical point of view:[5]

1. Character: Congenital Acquired.
2. Form:
   - Fissure in velum palati only (Figs. 32 and 34).
   - Fissure of the velum, including part of the hard palate also (Fig. 36).
   - Cleft entirely through both hard and soft palates (Fig. 39).
   - Median fissure through both hard and soft palates, with bifurcation at the maxillary bone (Figs. 41 and 43).
   - Double separation divided by the vomer, including the hard palate, with wide fissure almost completely obliterating the velum (Fig. 14).
3. Age:
   - At birth or during early infancy (Fig. 1).
   - Six months to one year old (Fig. 4).
   - Two years old and during the period after deciduous teeth have been erupted, but before their permanent successors have caused them to loosen (Figs. 36 and 39).
   - Twelve to 18 years of age, or later years. After permanent teeth have been erupted, but before developmental processes have been completed.
   - Adults with teeth in upper jaws (Figs. 41 and 43).
   - Adults with edentulous upper jaws (Fig. 18).

Fig. 3.—Photograph of same baby shown in Figure 2 after operation and intended to call attention to the straightness of the nose, equality of shape of alæ and the fact that the mouth is closed, which indicates that he breathes naturally through the nose.

Either lip or palate may be imperfect without the other being affected, although, as will be noted by study of the illustration, it is common for certain forms of lip and palate deformities to be associated.

Congenital lip deformities are either unilateral (Figs. 2 and 5) or bilateral (Figs. 7, 11 and 15). The former may be of first degree, or little more than a notch; of second degree, with a fissure extending completely through both lip and maxillary bones; or of third degree, a wider separation with unilateral protrusion of the intermaxillary bone.

Bilateral or double harelip has usually marked deformity of the vomer with protrusion. To these, unfortunately, must be added the cases that have been imperfectly operated on in early life, which so often call for correction and which, although presenting an infinite variety of imperfections, have nevertheless certain characteristic defects that admit of distinct recog-

2. Wolf: Archives of Klinical.
3. Billroth: Vienna Medical Presse, 1889.
4. Trilet, 1889.

5. Brown, George V. I. Surgical Correction of Malformations and Speech Defects Due to or Associated with Harelip and Cleft Palate, THE JOURNAL A. M. A., 1902. A System for the Treatment of Harelip and Cleft Palate, Chicago Med. Record, 1903. Relation and Comparative Merits of Surgery and Prosthesis in the Correction of Harelip and Cleft Palate, The Dental Summary, 1903.

nition and may be enumerated as follows: 1. Notch at the labial border. 2. Deflection of the tip of the nose, with deviation of the cartilaginous septum and flatness of the ala on the affected side. 3. Unsightly scars. 4. Stenosis of one or both nares. 5. Marked arrest of development due to removal of the intermaxillary portion of jaw.

EARLY OPERATION.

Radical operation for closure of cleft palate in the infant is to be condemned, because the death rate is unquestionably high. This is true of every serious operation at a period of life when the vital forces are busy adjusting themselves to a new, though natural, environment. The marked change from the direct protection and blood supply of the uterus to the uncertainties of nourishment and temperature after birth involves a problem fraught with many difficulties of solution, even in the care of normal children. How much greater then, when the vital forces are sapped by hemorrhage, and the digestive function disturbed by bacterial influences incident to operative procedures in the oral cavity, or wires left in the tissues of the mouth and jaws to gather bacteria in spite of antiseptic precautions, as they must and always do under these conditions.

Fig. 7.—Baby with double harelip and the usual oral, facial and nasal distortions.

Fig. 8.—Same baby as in Figure 7, with parts bound in position after preparatory operation on the vomer and manipulation to replace parts and to bring them into normal position before final operation.

The question of meningitis also becomes a serious consideration when one contemplates the result of crushing the maxillary bones together to approximate the sides of such wide fissures as are found to exist in many cases, because of the co-relation of the still unformed semi-cartilaginous bones of the face and head, which share in the effect of compression, and added to this is the danger of infection being carried to the brain through the direct channels of communication.

Fig. 9.—Same baby as in Figures 7 and 8 and after preparatory operation and treatment, with parts ready for closure by final operation.

Finally, it may be said that the results of such operations from a cosmetic point of view are certainly not so perfect or pleasing as may be accomplished by other means, and it is moreover reasonably certain that the functional possibilities of the palates and mouths thus treated with regard to speech are often not of the best.

Fig. 10.—Another view of same baby pictured in Figures 7 to 9, after treatment, showing that the sides of the fissures remain in contact without sutures and calling attention to the improvement of the nose. Child is now ready for final operation on lip.

Foregoing statements may be better understood and their importance appreciated more fully, also the reasons for methods of treatment described later by a study of the defective operative results illustrated in Figures 20, 24, 25, 26, 29 and 30, which have been taken from cases in practice and which may, therefore, be said to be essentially practical.

The excessive unilateral development is a marked and almost invariable condition in these cases, the more so because arrested development of the opposite side serves to increase this deformity.

The enlarged turbinated, or the appearance of enlargement, which may be noted in each of the pictures and casts, is a very common concomitant and doubtless is due to a partial unfolding of its curvature, in an at-

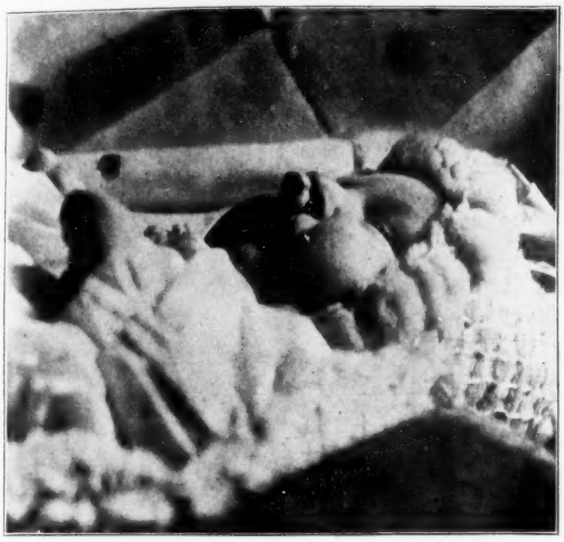

Fig. 11.—Baby five weeks old, with characteristic deformity of double harelip.

tempted adjustment to the unusual nasal space occasioned by the fissures.

If, therefore, the sides of the jaws of any such cases are crushed together by immediate closure, as is recommended by some authors, one side of the face will project beyond the other, giving a peaked, extremely unpleasant appearance, that later developments can never hope wholly to overcome.

It must be apparent also that in many instances it is

Fig. 13.—Front view, after operation, of baby shown in Figures 11 and 12.

the inferior turbinated bone that must meet in direct line the border of the maxillary portion of the palate on the opposite side, or if not this, then there will be a complete and irreparable permanent stenosis of the naris, on the affected side, at least.

Fig. 26 shows a little boy whose palate was closed in early infancy, and, as may be seen, the breathing is entirely by mouth. There is complete obliteration of one nasal passage, and almost the same condition of the other. The appearance of the face also confirms my statements.

In these cases, the intermaxillary bone is either attached to one side or separated by fissures on both sides. In the former case it projects, as shown in Figs. 2 and 5; in the latter, as illustrated by Figs. 7, 11 and 15. Thus an immediate, direct and forcible closing of the fissures would, under both conditions, leave an unsightly protrusion of one side, or the anterior aspect of the mouth and nose, which would be all the more noticeable because of the enforced narrowness.

Fig. 18.—Cast of mouth of young lady shown in Figures 20, 21, 22 and 23, with cleft extending through both hard and soft palates, the fatal error of extracting all teeth having been made some years before coming to me. Line is drawn where maxillary bone was sawed and fractured to correct unequal maxillary development, with result as shown in Figures 19 to 23.

Fig. 20.—Patient 22 years old, the casts of whose mouth are shown in Figures 18 and 19. Although the lip was closed in infancy by a famous surgeon whose skill is beyond criticism, the failure to adjust the maxillary bones resulted, as may be noted, in great nasal and facial deformity. Ala flat and nose almost entirely on one side of face.

One would expect speech to be facilitated by the fact that when early operation has been performed no opportunity is given to acquire the characteristic defects common to individuals afflicted with imperfect palates, and yet we usually find that this is not the case, owing

to insufficient room for the tongue and conditions due to hasty closure of the soft palate, which must of necessity be less perfect than at a later age when more time can safely be given to accurate adjustment of the parts.

The impossibility of preventing infants from crying and straining the muscles of the soft palate, thus endangering the pulling out of stitches, together with the danger to the life of the child, both tend to show that there is real need for other methods.

TREATMENT OF INFANTS.

Provision has been made for all, or at least, most of

Fig. 21.—Same view of patient shown in Figure 20 after lip had been reoperated on, scar tissue removed and both jaw and nose straightened.

the contingencies that arise in the care of these infants. If a child can be placed under treatment immediately or shortly after birth, when both lip and palate are affected, the method of procedure is as follows:

A day or two is given to allow the infant to become accustomed to its surroundings, if in a hospital, as is

Fig. 22.—Side view of Figure 20, to be compared with Figure 23.

best, although not absolutely necessary. The child is weighed and its general condition of health observed, character of fecal passages, etc. If conditions are favorable, strips are then adjusted to prevent the action of the lower jaw from forcing the maxillary bones apart and widening both the palatal fissures and the lip separation. This also brings into play the muscles in such manner as to produce a narrowing effect whenever the little patient laughs or cries; in other words, the forces that ordinarily increase the deformity are now engaged in its reduction, and in addition thereto, are stretching the lip muscles and skin surfaces on each side, so that in a very short time there will be an abundance of material to bridge across and make a sightly operation, where formerly the supply was perhaps so scant as to make an operation extremely hazardous.

It is necessary that it be trained to eat from a spoon, or dropper, and all habit of sucking should be overcome, if possible, before operation.

Figures 2 to 16 inclusive call attention to the practical results of such treatment, and I think all will agree that a few weeks' preparatory care may sometimes be beneficially employed.

Fig. 23.—Side view of Figure 20, showing ala of nose on right side to be the same shape as on the left, as shown in Figure 22.

AGE FOR PALATE CLOSURE.

The proper time for palate operation depends largely on the physical development and condition of health of the individual, also on training, and subjection to proper control, because the best of health is not only desirable, but imperative, and unless the assistance of the patient can be secured in the way of intelligent cooperation in the post operative care and treatment, it is most unlikely that good results will be accomplished. Therefore we find that some children can be operated on safely and satisfactorily at a much earlier age than others. Yet it is by all means desirable that no bad speech habits be given time to establish themselves.

Our choice must then come between the years when the deciduous teeth have been fully erupted and before they have become loosened for their permanent success-

ors, and yet, before speech habit has been fully formed. Fortunately the period during which most children talk "baby talk," as it is called, gives us more or less opportunity to make a satisfactory decision, since during this time the manner and form of speech are not what they will be later, and one change or another is much the same, because correct speech is yet to be acquired in any event.

REDUCTION OF WIDTH OF FISSURE BY THE USE OF AN APPLIANCE.

Having thus determined on the question of time, we next attach an appliance, such as is shown in Fig. 44. No other agent is necessary at this age, as the bones are soft and yielding, so that a slight turn of the little screw two or three times daily is sufficient to materially reduce the width of the fissure and to give the increased angles of the palate surface, which are necessary to make operation simple.

PREPARATORY TREATMENT OF ORAL, NASAL AND FAUCIAL TISSUES.

During the time of wearing the appliance, daily irrigation with nasal douches of salt water, boric acid, or

Fig. 25.—Shows deformed facial appearance, under conditions represented in Figure 24, after intermaxillary bone has been removed to close double harelip.

other mild solutions of like character, should be given to correct the diseased condition of the nasal mucous membrane.

This treatment is important in all cases, for whether the patient be young or adult, hypertrophic rhinitis is a natural result of unusual exposure of the nasal and pharyngeal mucous membrane to thermal changes, irritation from mouth bacteria and other irritants.

Manipulation also should be given when tendency to gag on irritation of the faucial surfaces exists; otherwise, retching or vomiting at the slightest touch will make it almost impracticable to thoroughly cleanse the wound surface of the palate down to the tip of the uvula, as should be done, without exciting such disturbances, which might cause destruction of the integrity of the stitches. Proper treatment is of inestimable benefit in these two directions.

TREATMENT AT SIX MONTHS OR OLDER.

Infants who have reached the age of six months or more sometimes require the assistance of wire passed through the lateral sections of the divided jaw and secured by lead or silver plates, in order that by a slight bending of these wires from day to day a sufficient tension may be produced to bring about a readjustment of the deformed structures.

Fig. 26.—Front view of same boy shown in Figure 25. His palate was closed in early infancy with what appeared to be a successful operation. The result at 7 years old may be seen. Complete stenosis of left naris, right side of nose also absolutely useless for breathing purposes, although probe can be passed through. Disproportionate appearance of upper part of face and head to lower quite apparent, due to arrest of development. Voice shrill, high and by no means perfect in pronunciation.

Fig. 27.—Front view of same boy shown in Figures 25 and 26 after operation.

YOUNG AND ADULT CASES.

The appliance used for attachment to the teeth, and the nut, with threaded metal bar, do not differ materially in young or adult cases, except that a trifle more strength may often be required for the latter. There is, however, a difference in the manner of application.

The yielding quality of the young bones makes it possible, by steadily exerted pressure of the appliance alone, to bring the sides nearer, and thus to reduce the width of the fissure; at the same time the palatal arch is increased in height and the sides so shaped as to make the angle of their slant more acute; for older patients this is best accomplished by cutting along the external walls of the superior maxillary bones, through the outer plates, particularly at the malar process, and behind the tuberosities. With strong forceps then crush together until a partial fracture makes exact adjustment to proper form an immediate possibility. The appliance, as in Fig. 45, then acts as a splint capable of exerting pressure if needed.

It is most desirable that the anterior or narrower portions of the fissure should be brought into direct contact, sufficiently so, if possible, to allow of freshening, not only the soft tissue, but the bony borders as well.

The complete circulation thus secured, after union has taken place, serves to nourish the flaps when the muco-periosteal final operation is performed, and does

Fig. 28.—Side view of boy in Figures 25, 26 and 27 after operation, and restoration to more natural lines in profile.

much to prevent sloughing, which is so much to be dreaded.

IMPROVED FORMS OF NEEDLES.

The curve of each needle should be as exactly fitted to the part of the operation for which it is to be used as possible, because, in describing the segment of a circle necessary to insert a suture in the anterior portion of the hard palate, where it is high and narrow, and in the posterior portion of the soft palate, where the space is broad and shallow, the requirements are entirely different. This is true also of the intermediate portions of the palate surface. The mucous secretion and hemorrhage make it difficult to see perfectly at all times in the act of catching the point of the needle and to easily secure the suture. Therefore great assistance is rendered if the exact curve of the needle can be so calculated as to enable the operator to know, with some degree of accuracy, just where the point will reappear on the side opposite the point of insertion.

Three sizes of needles, after the form of perineum needles, curved to allow of convenient use at the different angles required for operations in the mouth, meet the necessities of the situation very well, but for my own use it is a great advantage, and since I use both right and left hands in operating, much benefit is derived and the time of operation materially shortened by the use of a set of five pairs of needles (my own design), with opposite curves (right and left), each pair graded in size from the large ones used in the posterior portion of the soft palate to the smallest, which are suitable for the extreme anterior portion of the hard palate. These are threaded with the suture materials before operation in order to save time and confusion, and to leave the assistant quite free to handle sponges and thus reduce to a minimum the troublesome hemorrhage that usually attends operations in this region.

SPEECH RESULTS AND TRAINING.

A system would be but half complete that offered no assistance beyond repair of the imperfect oral instrument and did nothing afterward to teach the use of it.

Postoperative training must be our final consideration. It is a noticeable fact that individuals who are

Fig. 29.—Young man of 22, showing result of early imperfect operation for double harelip.

quite unable to recognize imperfections in the sounds of words, as they pronounce them, detect the difference at once when their own speech records are sounded from a graphophone, the effect being the same as though another person were speaking. To take advantage of this it is advisable to have a record taken before and another immediately after operation, while from time to time, as the training progresses, much encouragement is given by having others taken for comparison. Preferably, the same words should be repeated in order that the test may be exact.

Walter Edward Scripture, in his most valuable work, "The Elements of Experimental Phonetics," makes the following reference to phonographic speech records, which is completely in accord with my practical experience in training these cases:

When a record is found that speaks clearly, in a natural voice, it can be trusted for what it says, since it can not say anything more than is on it, and can not improve its own tracing. The speech represented by a tracing from a record is the speech of the record itself. How nearly this reproduces the original

speech can only be determined by comparing it by the ear with the words of the original speaker. By skillful manipulation records can be made whose speech can not be distinguished from that of a living person, except by their weakness and by the scratching noise due to the friction of the tracing point in the groove.

A study of phonographic records, taken from patients of different ages, temperament, degrees of intelligence, and extent of palate deformity, showed some interesting differences in speech defect.

The facility with which some patients improve in speech after restoration of the palate by operation, and the difficulties that others of the same age and equal mental capacity seem to encounter, as noted by comparison of the phonographic records and casts, indicates very clearly that the extent of the fissure is by no means an exact index to the character of speech defect, there being a somewhat surprising dissimilarity of speech sounds among these patients. Undoubtedly, there are certain easily recognizable wrong sounds common to them all, but the inability to speak correctly

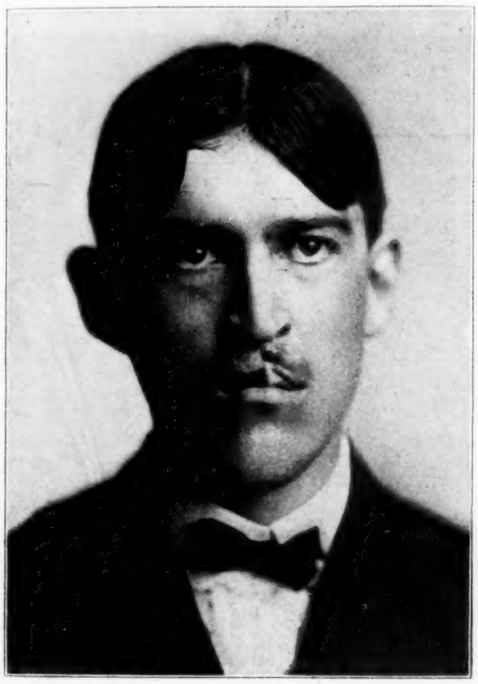

Fig. 30.—Front view of same case as in Figure 29.

individual letters, words and sentences is by no means the same in all cases, even where the palate fissures are quite similar; all of which serves to emphasize the necessity for careful consideration of speech mechanism as absolutely a first essential in the construction of a plan for speech and voice training calculated to give the best results.

This, on previous occasions, I have summed up in the following manner:

The first cry of the child is merely a sound caused by reflex action of the muscles, without any guiding influence exerted by the faculty of reason. This is followed by the first efforts of sound to represent intelligent words as objects begin to be recognized, and gradually this is continued and extended until expression of ideas in speech becomes possible. It will be readily understood that if these efforts have been on normal or correct lines, the muscular activity necessary to sound-producing must have been guided by the proper nerve centers, which will have caused an increase in the brain development of those centers, and the messages sent from the motor tract to the muscles which are concerned in the utterance of words will be in all respects correct and the habit of proper speech will have become an established fact. On the other hand, however, if a deformity has existed from birth, by reason of which the normal use of certain muscles has been greatly restricted, and the use of certain other muscles, not commonly used in the process of word enunciation, have received more stimulation than would have been the case had there been a perfectly formed mouth and throat, the results must invariably be an increased development of the nerve centers which are injurious to speech, with a faulty development of those that are necessary to perfect speech. This might be termed a habit, but the word habit conveys too restricted an idea of the condition. For example, when the eye, through its retinal image, registers on the brain structures the particular nerve stimulations, which in time will become associated with the name of an object, its form record is established by what may be known as the visual memory centers. Precisely also are the somesthetic areas affected by the tactile sense, and memory of the sense of touch, as well as taste, smell and other stimuli that may have been excited by or associated with any particular object, and, when the sensorium takes consciousness of this object, the name of which has become known to it, there is required the co-ordination between these different memory centers in order that the proper message may be sent

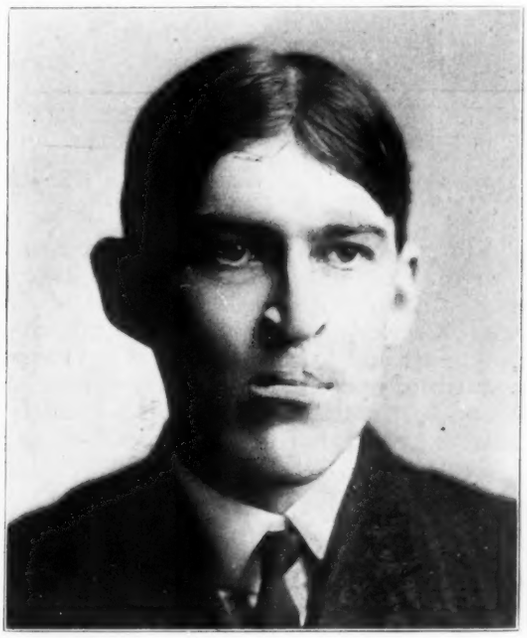

Fig. 31.—Result in case shown in Figures 29 and 30 after operation, by which lip, nose and jaw were readjusted and scar tissue removed.

to the motor centers, through which certain muscles may be set in motion in the proper manner to produce the sound which may be clearly recognized as the spoken name of the object.

It is known that in speech the muscles of the chest, which are responsible for expiration, the muscles that raise and lower the larnyx, those that tighten the vocal cords and tip the hyoid bone, as well as resounding properties due to the nearness of the spinal column, and the co-operation of the forces that are applied in raising and lowering the soft palate, the adjustment of the tongue and proper action of the muscles of the cheeks and lips, are all necessary for the utterance of even a single word. If, therefore, during the life of the individual, through faulty operation or adverse action of these agencies, wrong messages have been constantly sent to portions of the brain concerned in making a certain sound, and if the auditory memory centers have registered, by the constant hearing, imperfect sounds for specific words, which accordingly have caused the development of brain structure which is all active against correct speech, and if there be an

insufficient development of those centers which are needed for perfect speech, how great becomes the difficulty of giving a speech power to individuals in the face of all these acquired disadvantages.

Kingsley's palatograms (Fig. 47), obtained by coating the surfaces of thin plates covering the palate surfaces with chalk, in such manner that whenever the tongue touched, in sounding a word or letter, the black surface showed through, are of interest as indicating why certain letters are so troublesome in these cases. It will be noticed by the illustration that points of contact of K and G are post velar, and therefore not only practically impossible without a velum, but almost equally so, unless after operation the soft palate se-

Fig. 36.—Cast of mouth of child, 2½ years old, with cleft including the velum and parts of the hard palate.

cured be of perfect form and sufficiently flexible, under muscular control, to allow this contact to take place. These, it will be remembered, in support of the accuracy of Kingsley's work, are invariably troublesome sounds. Foster and Reichert, in describing speech under the heads of vowels and consonants, divided into explosives and aspirants, vibratory and resonants giving in detail the mechanism of alphabetical sounds, con-

Fig. 37.—Cast of same patient's mouth as in Figure 36 after closure by operation.

clude with the following statement, that, from our point of view, is all important::

On many of the above points, however, there are great differences of opinion, the discussion of which, as well as of other more rare consonantal sounds, would lead us too far away from the purpose of this book. The following tabular statement must therefore be regarded as introduced for convenience only.

Scripture calls attention to the following factors of voice control:

1. Reflex Tonus: Tonus is a faint muscular contraction due to continuous weak nerve stimulations, easily subject to fatigue, ill health and other demoralizing conditions, lack of or disarrangement of which causes marked change of voice in both speaking and singing.

2. Force of Movement: This depends on the amount of stimulus sent to muscles, movements of which includes not only those directly involved, but also their antagonists. This requires an excess of effort over what might be expected, but when the innervations are properly co-ordinated this excess is not necessarily large and fatiguing.

3. Accuracy of Movement: Inaccuracy of movement is a fundamental source of inaccurate and wrong sounds.

4. Precision of Movement: This refers to regularity and evenness of execution and depends on nervous control.

5. Accuracy and Precision of Co-ordination: This represents the nervous control over simultaneous muscular movements. Some forms of thick speech of alcoholic intoxication and incorrect adjustments during excitement are caused by defective co-ordination in speech effort.

6. Quickness of Response: This is action of the nervous centers that tends to become automatic. One object in vocal training should be to render speech and song automatic.

7. Quickness of Muscular Movement: This depends on both muscular and nervous quickness and must be properly balanced; otherwise, speech appears labored or slurred.

Fig. 39.—Cast of mouth of boy 2½ years old. Cleft through hard and soft palates.

8. Auditory Motor Control: The learning of speech sounds consists largely in forming connections between motor and auditory sensations.

9. Ideomotor Control: Sounds occurring simultaneously with sights, touches, tastes, smells, emotion, act of will, etc., tend to be connected with them, so that when any one of a complex group occurs again, the others are revived more or less clearly in consciousness. It is in this way that speech movements become associated with printed letters.

10. General Voluntary Control: This is subject to changes of nutrition, fatigue, emotion and general habits, on all of which vocal control must place its dependence.

In my practical training of these cases, I have found that one of the best aids to speech improvement is singing. Even though the sounds be less musical than might be wished, and they often are, vocal lessons, or, in the absence of this, constant use of the voice in chanting sentences, after the manner of intoning church services, will enable the individual to speak reasonably well the particular sentences practiced in this manner

in a very short time. Combining, as these exercises do, most of the essential points brought out in the foregoing description of speech requirements, it follows that there can be no more beneficial procedure.

Nervousness and over anxiety about rapid improvement in many cases retard progress quite seriously and must be overcome in so far as possible at the very outset. Such patients are best counseled that improvement must necessarily be slow, and cautioned against making too great effort.

A large majority of these patients are, as might be expected, individuals of extremely unstable nervous organization, and it is of quite frequent occurrence that some of the neuroses common to neurotics occur in the way of speech impediment. Aphasia with regard to certain letters and words, stammering, nervous hurrying, together with letters and sounds, are very often complications that retard progress. Doubtless much confusion in reporting results has occurred through failure to distinguish these affections.

Exactly why interference on the part of any nervous agent that might tend to disturb the rhythm of muscu-

Fig. 40.—Cast of same mouth as Figure 39, shows result after operation. Fissure reduced by the use of an appliance and closed by final operation.

lar movement must necessarily disarrange the speech harmony is most beautifully shown by a copy of one of Scripture's plates which is a reproduction of a photograph of actual sound waves taken during the recital of "Who Killed Cock Robin?" (Fig. 48).

PHONOGRAPHIC RECORDS.

The phonographic records show the degree of improvement in speech.

CASE 1.—In the case of a girl of 14, who had only a fissure in the soft palate, before operation, it was impossible to distinguish speech sounds sufficiently for unaccustomed persons to understand what she said. Therefore, a phonographic record would have been a mere jargon of unintelligible sounds. The fourth grade was as high as she had been able to get in the public schools because teachers could not understand her. Immediately after operation marked improvement was noted by record. Later records showed remarkable change for the better, and on one or two occasions after training, she has recited before large audiences with much clearness and a very good approximation of perfection of sound, verses on which she had been drilled, but in general conversation her progress was not in proportion to that of better educated patients, as was noted in records of other cases. Eagerness in conversation always tended to cause lapses into old speech habits, and in this case, such difficulty was hard to overcome; a difference being apparent if she were allowed to associate for a time with people who themselves spoke incorrectly or carelessly or the reverse.

CASE 2. Another young girl, 22 years old, with the same character of fissure, but who had a high school education, could speak much better than the preceding one before operation, the range of her intelligible, even though somewhat nasal sounds, being much less limited. After closure of the cleft, though operative results were quite perfect in both cases, her progress in the line of improvement in conversational sounds was shown by the record to be much more marked.

CASE 3. Patient, mother of a grown up family, aged 38. Cleft in soft palate the same as Cases 1 and 2. She was not well educated, but not ignorant and of less nervous temperament than the other two. Speech, as might be expected, was better than Case 1 and not so good as Case 2. Soon after operation, therefore, without training, her record was found to be surprisingly good, due in a considerable measure, no doubt,

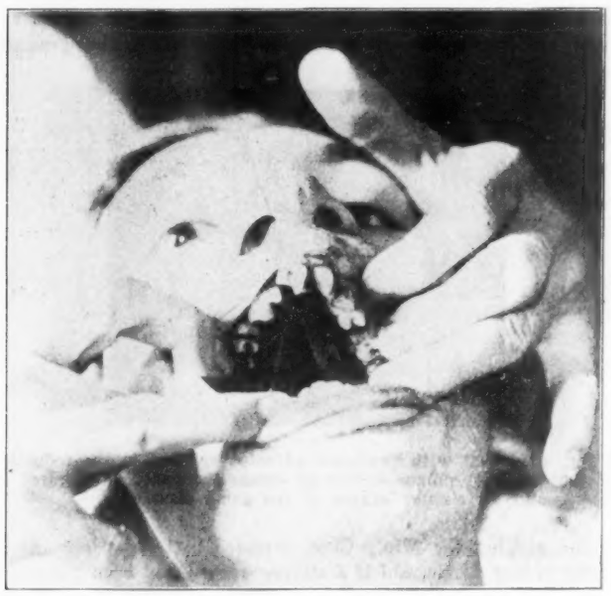

Fig. 43.—Photograph of mouth of patient with cleft through both hard and soft palates. Casts shown in Figures 41 and 42 were taken from this patient's mouth.

to freedom from nervousness. Later reports of improvement were much more favorable than was expected, but have not yet been confirmed by record.

CASE 4. This patient, a girl of 16, in whom the fissure was confined to the velum, as in all the preceding cases, was as uneducated as the first patient, but with less natural intelligence. Scarcely a single word in her first record could be understood. Later and after much training, she was able to recite simple rhymes before large audiences quite well, but she has never acquired good speech. When corrected, she can repeat after another, sentence by sentence, even most difficult words with little noticeable speech defect.

CASE 5.—A girl of 22, who had an acquired fissure of the velum, due to hereditary syphilis, was operated on after preparatory administration of potassium iodid, with successful results so far as closing the opening was concerned. It was not perfect in the sense that the preceding cases were, because cicatricial contractions, due to previous ulcerative processes, had stiffened the tissue. Notwithstanding the fact

that this deformity was acquired at about the age of 14, and the patient's education was above the average, there was less improvement after operation than in any of the other cases.

CASE 6.—In contradistinction to these other cases, a little boy of 9 years of age, whose congenital cleft in the velum was like that in Case 5, with very imperfect speech, was able to improve so rapidly that between the months of May and November, defects were so overcome that his school teacher did not notice unusual difference from other children of the same age.

CASE 7.—A young girl of 22, fairly well educated, with opening in velum palati alone, in whom speech sounds were very bad before operation, was able, by reason of good ear and singing practice, to improve sufficiently to be able to pray and sing alone at Salvation Army meetings within a few months from time of closure. In this case, undoubtedly, religious zeal helped to overcome self-consciousness, together with other mental and nervous hindrances, while constant attendance on the meetings of the army gave the best possible training to the vocal apparatus.

CASE 8.—A young man of 18, had a complete cleft of both hard and soft palates. He is a graduate of a high school. Before operation it was almost impossible to understand, yet, in repeating the alphabet, unusual ability to pronounce each letter was noted; even the G. K and C being more than ordinarily good. Stammering was the prime cause of his speech difficulty. The record, taken two days after the last stitches were removed, complete union by first intention having taken place throughout, even to the tip of the uvula, showed an almost astonishing result, since his voice from the graphophone, singing the "Holy City" sounded better, perhaps, than many of our own would if a similar record had been taken.

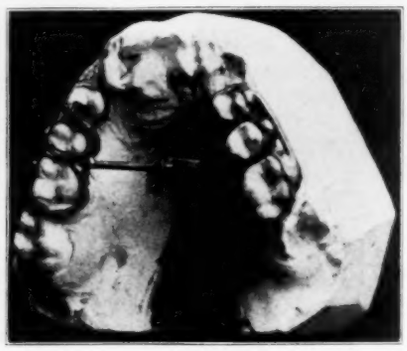

Fig. 44.—Cast with appliance adjusted as used in the reduction of the width of palate fissure, in cases illustrated in Figures 39 to 43, and all similar others of the same classes.

CASE 9.—A young man, 19 years old, with a fair education, had fissure through both hard and soft palates. The first speech record was better than Case 8, on account of freedom from nervous habit, but ability to make separate sounds was less perfect. He could sing "Rock of Ages' quite well, and showed great speech improvement in later records as a result of two weeks' singing and drill exercise.

CASE 10.—A boy of 9, for whom only the preparatory operation has yet been performed, has given us two interesting records. In one he recites the Lord's prayer with an obturater in his mouth, and in the next equally well without it, yet, with cleft through both hard and soft palates, it must be understood he could not have learned to speak so well had he not had the mechanical assistance in the beginning.

CASE 11.—A young lady of 22, highly educated, but with wide cleft through both hard and soft palates, made worse by having had several previous unsuccessful operations; improved so rapildy after the normal form of the palate had been restored by operation that she successfully passed an examination to teach in an eastern law school. Although records in this case are not complete, the fact that she now holds an important position and daily transacts the telephone business of a large establishment is sufficient proof of her improvement. Undoubtedly, her rare intelligence and persistence have been assisting factors.

CONCLUSIONS.

I have thus presented a number of cases, covering not only different forms of cleft palate deformity, but varying characteristics with the same classes of deformity, due to the several conditions that govern speech habit in these individuals. A large number of other cases of which I have from time to time taken record, under all the various forms and conditions of these patients, confirm the results given in those here cited. All the selections given in these illustrations have been made on the basis of demonstrating distinctive, important differences bearing on operative procedures, and speech results, rather than a multiplication of similar cases, that would involve endless repetition and confuse rather than make the subject clear.

It has been demonstrated that some of these patients, with openings so wide that there appeared to be almost

Fig. 46.—Photograph of patient with palate fissure as in Figures 41, 42, 43 and 45, after reduction by the use of appliance and final operation, with perfect result throughout the entire extent of both hard and soft palates down to the tip of the uvula.

no palate at all, spoke as well or better than others with only a slight velar defect, and individual distinctions have thus been made apparent, from all of which the following conclusions are obvious:

To get the best results from operations, the palate must be restored in as nearly perfect form as possible. Freedom from scar tissue and from muscular tension sufficient to allow necessary speech movement are essential.

Proper muscular alignment at the point of union greatly facilitates the early usefulness of antagonizing muscles; therefore natural physiologic action is more promptly in evidence.

All these operative conditions are favored by the methods of the system herein described. Individual benefits assuming that operative results have been per-

fect or as nearly so as possible will be governed by patience, earnestness and application of the patient. Natural intelligence, aided by education, will be manifest in assisting progress. A musical ear (so-called), and ability to note rhythm and time in music are of very great assistance.

No cleft palate deformity can be so bad that it can not be corrected by surgical operation, nor need age prevent unless through lack of health on the part of the patient.

It has been my purpose throughout to treat this subject from the broad standpoint of a system to emphasize by precept and illustration the crying need for better treatment of a class of individuals whose misfortunes can not fail to appeal to everyone; to establish an understanding of the necessity for differentiation in the choice of operation and methods of treatment, and, above all, to prove the value of a practical system. Thus, matters belonging strictly to surgical technic have been, so far as possible, avoided and left for a future paper, but the postoperative treatment of these patients is so vital to the success of every operation that more than passing notice seems to be imperative.

It is too often taken for granted that more or less

Fig. 47.—Kingsley's palatograms.

sloughing and pus formation must follow extensive mouth operations, and that surgical asepsis is impossible. In a sense, this must be admitted to be true, owing to natural anatomic obstacles to complete sterilization and the constant exposure to infection from so many sources, but notwithstanding all this, most gratifying results can be secured, and so nearly a true primary union obtained as to make its essential benefit the same even with extensive wound surfaces. With the periosteum stripped from the palate surfaces; incisions reducing circulation to the farthest safe limit; nasal secretions above in contact with raw surface; mouth secretions below, mixed, as often occurs, with gastric regurgitations, and vomited matter; only a comparatively thin veil of tissue bridging the space of the palatal separation of the bones, and at the velum, exposed to destructive influences at every movement of the tongue, or act of swallowing, it goes without saying that only the most rigid adherence to antiseptic surgical care could be effective.

Strong solutions of poisonous, or tissue destructive, germicidal agents are necessarily precluded in the mouth. Dilution in the oral fluids renders otherwise effective solutions of practically no benefit. The histologic character of the nasal, oral and pharyngeal mucous membrane surfaces render sterilization extremely difficult, and it has been conclusively proven, that animal fats, dead mucous cells and other surface coatings resist even powerful drugs to such an extent as to protect underlying bacteria, while germs on the immediate surface are destroyed. Mechanical cleansing, therefore, is a first necessity, and next to this, frequent use of non-toxic, or mild solutions of otherwise injurious germicidal agents. Preparatory preparation of the field of operation consists in scrubbing membranous, dental and other surfaces, removal or antiseptic care of teeth or roots, and at least temporary stopping of carious tooth cavities. My postoperative sheet anchor is dioxogen,[6] which gives mechanical cleansing, in setting free the dead mucous cells and destroying the resistant nature of the intervening secretions, while at the same time it gives an immediate and powerful effect on bacteria in destroying their vital properties. Dioxogen[6] and 2.5 per cent. carbolic acid should be used alternately once each hour during the day, and at least four times at night. These washes are applied with a glass hospital syringe, with force enough to assist in the dislodgment of little particles of débris, but not force enough to be injurious.

In addition to hourly washing, the use of applicators, made in the usual way, of absorbent cotton wrapped on

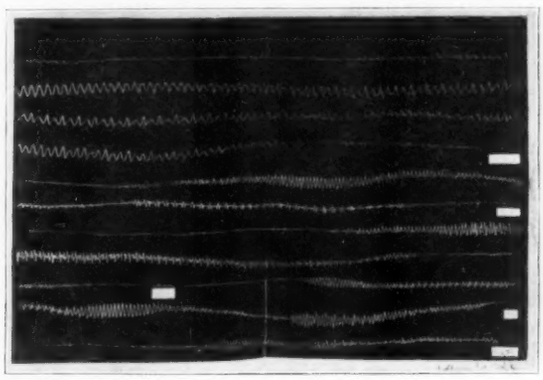

Fig. 48.—Copy of Scripture's photographs of sound waves in "Who Killed Cock Robin."

tooth picks, is required from three to four times daily to wipe surfaces that washing alone will not cleanse sufficiently. Almost from the moment of recovery from the anesthetic, some one of the many oil preparations should be sprayed with a suitable nebulizer through the nasal passages, as well as the mouth, and continued throughout the treatment after each washing.

In dealing with children and infants, it is not always possible to follow all these directions, as they sometimes do not submit willingly, and naturally we must therefore do only so much as we safely can, but patience, judgment and skill on the part of the nurse can do much to overcome such difficulties.[7]

6. I use dioxogen because in my experience it has proved the most uniformly free from acid of any of the preparations of H_2O_2, commonly sold as such, and because an impure or a strongly acid solution must necessarily be absolutely prohibited when hourly treatments of the mouths of patients, many of whom are infants, is prescribed.

7. Other references which may be consulted are as follows: Le Dentia: La Medicine, June 5, 1890. Ehrmann: Les operations plastiques sur le palais chez l'enfant, etc., Paris. Taylor: Dublin Journal of Medical Sciences, 1900. Edwin Owen: London Lancet, 1896. Telezit: Tribune Medicale, Paris, 1894. Talbot, Eugene S.: Stigmata of Degeneracy. Talbot, Eugene S.: The Etiology of Osseous Deformities. Cryer, M. H.: Internal Anatomy of the Face. Fillibrown: Boston Journal of Medicine and Surgery.

THE SURGICAL ASPECTS OF MAJOR NEURALGIA OF THE TRIGEMINAL NERVE.

A REPORT OF TWENTY CASES OF OPERATION ON THE GASSERIAN GANGLION, WITH ANATOMIC AND PHYSIOLOGIC NOTES ON THE CONSEQUENCES OF ITS REMOVAL

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(*Continued from page 779.*)

Liberation and Extraction of the Ganglion and Its Branches.—We now come to the method of dealing with the ganglion, and here, no matter what the approach has been, difficulties in a certain percentage of cases are invariably encountered. Hemorrhage is the chief bugbear, and I confess to have dwelt too lightly on it in my earlier paper. My first two cases were fortunately, or unfortunately, unusually bloodless ones. Not uncommonly, I think in more than one-half of my cases, has it been possible, with almost no loss of blood, to arrive at this stage of the operation. Sometimes it may be completed and the ganglion removed without any difficulties whatever arising from bleeding, and this has been my good fortune on six occasions, but at other times the structure is "below water" much of the time.[23]

There are certain advantages, I think, which come from working in a small hole and under the artery, provided that there is a good overhead light, for with the manipulations necessary to loosen up the ganglion, the small vessels, most of which enter it from below, are torn and the ganglion is immediately submerged. The assistant should always be ready for this emergency, holding the pointed tip of a piece of gauze at the margin of the wound, and this is quickly packed down into the small conical-shaped cavity by the same instrument with which the operator is carrying on the dissection. After a few moments of pressure the bleeding usually will have stopped and further progress may be made. Thus, by packing and working alternately, the entire ganglion may be freed from its bed, though still attached by the rami and root at four points. It is most important not to divide nor tear any of the rami until the structure is completely freed from its underlying sheath. The larger operative well, which the higher operation with ligation of the meningeal produces, means, I think, that more blood will be lost each time that bleeding occurs, and that a greater amount of packing will be necessary to control it. I have referred above to the convenience of a small opening in the skull, since its edges may be used as solid points of leverage against which the shank of the dissector may be steadied while the ganglion is pried away from its firm fibrous attachments.

There are many other tricks in the control of hemorrhage which one learns from experience. Bits of cotton or small pledgets of gauze may be packed and held against one division, the veins near which may happen to be oozing, while another is being liberated. It is, I think, a convenience (essential, indeed, for me) for the operator to stand at the end of the table instead of at the side and to work over the patient's head, holding meanwhile the retractor, which elevates the brain, in the left hand. It is hardly possible for an assistant to do this satisfactorily, and the risk of compression injuries should be assumed by the operator himself. One hand is all that can be used with any advantage in the dissection, provided the assistants are ready with the gauze points as described above. Slight changes also in the position or in the degree of compression exerted by the retractor are useful in controlling venous hemorrhage. The patient's head should be somewhat elevated and care exercised that no pressure, be it ever so slight, is exerted against the neck lest some stasis in the jugulars augment the venous bleeding, which, even under the conditions of normal low venous pressure, is the chief source of the operative difficulties.

With other ways of combating the bleeding from the ganglion I have had little success. The local application of adrenalin has, in my hands, availed nothing. Ligation of the external carotid, as I have said, affects only the arterial supply, and this does not concern the procedure under discussion. I have twice, as a preliminary measure, temporarily clamped the common carotid, according to Dr. Crile's suggestions. One of the cases proved an exceptionally dry one and the other equally bloody, indeed so much so that during the course of the enucleation I unclamped the artery, thinking that possibly the clamp might have been compressing the jugular vein, but could see no difference in the amount of bleeding either before or after liberating the vessel. Arterial (carotid) interruption, of course, does not affect the amount of intracranial venous bleeding, and of itself is attended with certain risks. I have almost invariably, while freeing the ophthalmic portion of the ganglion, either from pressure of the spatula used to elevate the brain or from the packing used to control hemorrhage, caused a pressure palsy of the oculomotor or abducens, as will be described later. Once, also, I had the lamentable ill fortune to tear into the cavernous sinus, as the history of Case 14 will relate. The style of instrument which has proved most useful for the liberation of the ganglion is a blunt dissector, the so-called "Joker," on the pattern which, I believe, we owe to Dr. Maurice Richardson of Boston. There are great differences in these individual instruments. The edge should be moderately sharp, the blade broad and the shank somewhat longer than in the usual form. A still longer handled dissector, which Dr. Halsted has had made on much the same pattern, has also proved useful, but no particular armamentarium is required for this operation, as Lexer has remarked. Emphasis has heretofore been laid on the necessity of practice gained by operating on fresh autopsy material. The sensations conveyed through the instrument to the hand while breaking up the fibrous expansions, binding the ganglion to its upper and lower dural layers, can not become familiarized by operations on dry cadavers in the anatomic department and should not be learned on the living subject. Once only (Case 15) have I had to abandon the attempt to remove the ganglion at the first sitting or even to completely expose its upper surface. A poor light, a difficult left-sided case and awkward reflexes led me to postpone the extirpation in this case. Forty-eight hours later a second attempt was made under better auspices,

23. It may be repeated here that in those cases in which elevation of the upper layer of the ganglionic sheath and exposure of the structure itself have been easily accomplished, and in which the exposure may be carried far enough back to bring into view the trigeminal root, are those in which trigeminal neurectomy as Frazier and Spiller have advocated, is possible, and also those in which extraction of the ganglion itself may be carried out with comparative ease. In the difficult and bloody cases the trigeminal root can rarely be brought into view, and it sometimes occurs in these cases that the ganglion may be sufficiently liberated to enable extraction of the root when its simple division would have been impossible.

and, though the bleeding was as free as on the first occasion, the ganglion was removed successfully and without great difficulty. This was the only case in my series (7 of them left-sided) in which aphasia was occasioned; it was presumably due to the local compression—anemia brought about by the gauze pack—since it disappeared completely after the removal of the foreign body at the second operation. Krause,[24] likewise, has only once found it necessary to operate in two stages and regards a prolonged and bloody operation at the first sitting as preferable to the risks of postponement.

Closure and Dressing.—The statement made in my first paper that drainage is rarely, if ever, necessary, I must retract. The cases on which the opinion had been based had been unusually dry ones. I have since then drained for from 24 to 48 hours several of the remaining 16 cases. One had to be packed for many days owing to injury to the sinus, but in others a thin wick of iodoform gauze rolled in protective or a strip of protective alone has been left in the lower posterior corner of the wound. The closure is far from an unimportant detail. The temporal muscle should be resutured in place; more important still, the temporal fascia should be accurately reunited, including not only the portion concentric to the skin incision, but also the edges at the base of the flap, where, together with the zygomatic periosteum, they have been horizontally divided. The temporal pad of fat is always carefully protected and left in place underneath the fascia. Only by these details can the deep sinking of the temporal fossa be, in a measure, evaded and can there be a possible subsequent reunion of divided nerve fibers of the occipito-frontalis. The skin is closed with most accurate approximation by the finest black silk sutures passed on round intestinal needles. These sutures are removed in forty-eight hours at the first dressing—never later than the third day—and no trace of the stitch puncture can be seen, and the linear scar is even from the onset almost invisible. There is no stretching of the scar in this situation, possibly due in part to the paralysis of the muscles, and the obtrusive cicatrices which are seen and even photographed after ganglion operations, indicate a very careless closure with coarse materials. The adhesive qualities of the silver foil applied to the wound by moistening with alcohol, as it is customarily used in Professor Halsted's clinic, gives a sufficient support to the wound after the sutures are removed. Others might prefer to give this support by a collodion dressing.

Blood Pressure Observations.—There is another detail of the operative period which deserves mention. In this, as in all other surgical procedures attended by any special risk, blood-pressure observations may advantageously be taken beforehand to obtain the patient's normal, and be plotted serially during the entire continuance of the anesthetic. Aside from the physiologic interest attached to such records, they serve to give the operator, who may interpret their import at a glance, the best measure of the patient's condition. This is emphatically true for cases in which there is likely to be considerable loss of blood; equally so for those in which an operation conducted on the central nervous system may directly or reflexly upset the vasomotor mechanism—characteristics of all intracranial or spinal operations. Comment was made in my earlier paper on the wisdom of keeping careful records of pulse rate, but at that time no sufficiently simple form of apparatus for estimating blood pressure, a much more important factor, was available for clinical purposes. An experimental investigation of the blood-pressure reaction in acute cerebral compression had shown that a rise in blood pressure took place, which was, in a measure, indicative of the extent to which the pressure effects of any local increase in tension were transmitted to the medulla, where seemingly the vasomotor center assumed the regulatory function of holding the blood pressure at a level in excess of the degree of the medullary compression; in other words, at a level sufficient to insure a continuance of circulation at the bulb. It was with the hope of corroborating these observations on cases of compression in man that led, as stated elsewhere, to the introduction of the Riva-Rocci blood-pressure apparatus, an instrument which, in spite of its many deficiencies, has served a very useful purpose. Cases of ganglion extirpation by any method in which a greater or less elevation of the temperosphenoidal lobe is occasioned are the counter-

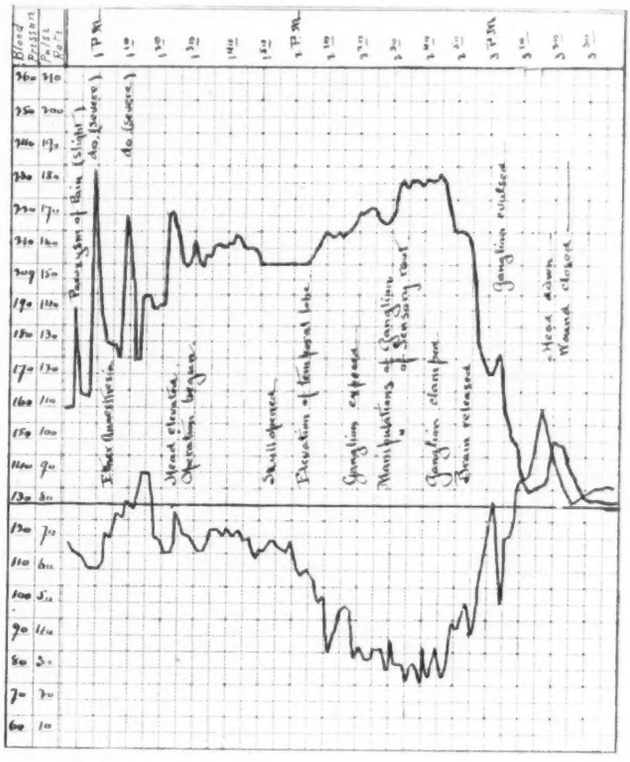

Fig. 2.—Chart of pulse rate and blood pressure during operation. (Case 7.) Note: 1. The pressor responses during the paroxysms, before the administration of ether, unassociated with change in pulse rate. 2. The vasomotor response to 233 mm. of Hg during elevation and compression of the temporal lobe and the corresponding retardation of pulse to 30 beats a minute from vague stimulation. 3. The return of blood pressure and pulse rate to their normal level, after releasing the compression. The upper line represents the blood pressure in mm. of Hg, and the lower line the pulse rate.

parts, so far as their cardiovascular reactions are concerned, of experimental conditions in which local compression is exerted or of certain clinical cases as, for example, traumatic extradural meningeal hemorrhage. They are associated with a slowing of the pulse, and, if the compression is of sufficient extent or so exerted as to transmit its effects to the vasomotor as well as to the vagus center in the medulla, the former is likewise stimulated by stasis anemia and there is a resultant rise in blood pressure. The vagus response, the slowing of pulse, is familiar to all who have carried out this operation, and an illustrative chart of pulse rate alone was

24. Verhandlungen d. Deutschen Gesellschaft für Chir. 30th Congress, 1901, p. 33.

given in my earlier paper. A combined chart showing alterations both in blood pressure and in pulse rate was first taken in Case 7 of the series and is here reproduced (Fig. 2). The reaction shown in this figure is very pronounced, more typical, in fact, of the experimental reaction than is usual, since, in the majority of cases operated on by the low method, the degree of compression, though enough to evoke a vague response, does not always suffice to stimulate the vasomotor center and produce such an enduring rise in blood pressure as is plotted in this figure. Not uncommonly one sees a very irregular systolic curve, accounted for, I presume, by the pressor responses brought about by manipulations of the sensitive dura and of the trigeminus itself. An indication of the great pressor excursions which, without alteration in pulse rate, accompany the neuralgic paroxysms is also present on this chart, and I can not but believe that the arteriosclerosis, which is so common an accompaniment of long-standing cases of tic douloureux, is with greater probability consequent on the high-pressure pulse than that the vascular changes, as is so commonly thought, are in themselves a causal factor in the neuralgia.[25] On the next occasion of removal of the ganglion (Case 8), the fatal one of my series, a warning depressor response occurred which was unheeded. It proved to be a comparatively simple, dry operation, and yet it was characterized by a constant fall in blood pressure which showed itself before any change in pulse or respiration was apparent to the anesthetist or to the operator. Had this warning of the failure of the normal compression reaction been accepted, the painful necessity of recording a death in this series of cases might have been avoided. It will be seen, on consulting the chart (Fig. 3), that the usual reactions on elevation of the temporal lobe did not occur. Since this sorry lesson was learned, implicit reliance has been placed on these readings, and I doubt not that accidents have been averted thereby. No definite reaction has been seen to result from the evulsion of the sensory root. A fall in blood pressure at this time may appear on the charts, but this fall is probably due to the immediate release of the temporal lobe from the compression which follows the extraction of the ganglion. Once or twice, however, I have thought that a depressor response was occasioned by the extraction. It would seem also that the severe sensory impulses induced by the surgical traumatism of the ganglion would always be productive of postoperative shock, and with this thought in mind I have occasionally endeavored thoroughly to cocainize the ganglion after its exposure and then to carry out the manipulations necessary to free it. I have not been at all convinced that anything had been gained thereby, and, indeed, the fatal case of the series had been so treated.

CLINICAL HISTORIES OF TWENTY CASES WITH COMMENT.

The quotation which was borrowed as an introductory paragraph for this paper makes reference "to the marked similarity that one case bears to another both in course and symptoms," and for this reason the first case alone in the following series will be recorded in some detail in order that an idea may be conveyed of the type which is considered "major neuralgia." A recital of the other cases would be unnecessary were it not for dates and ages and data pertaining to the varying instances and complications of the operative and postoperative periods, for the similarity which in each case characterizes the ante-operative chapters does not always apply to the subsequent story.

It is almost superfluous, indeed, to give any illustrations of a malady the clinical aspects of which are so sharply cut. In its major form, however, the disease is not a common one, though when present it claims its victim to the end. A retired physician who has had a long and active practice in private and in hospitals of almost fifty years tells me that only two instances of the malady in its extreme form have ever come under his observation. Both of them ultimately were suicides.

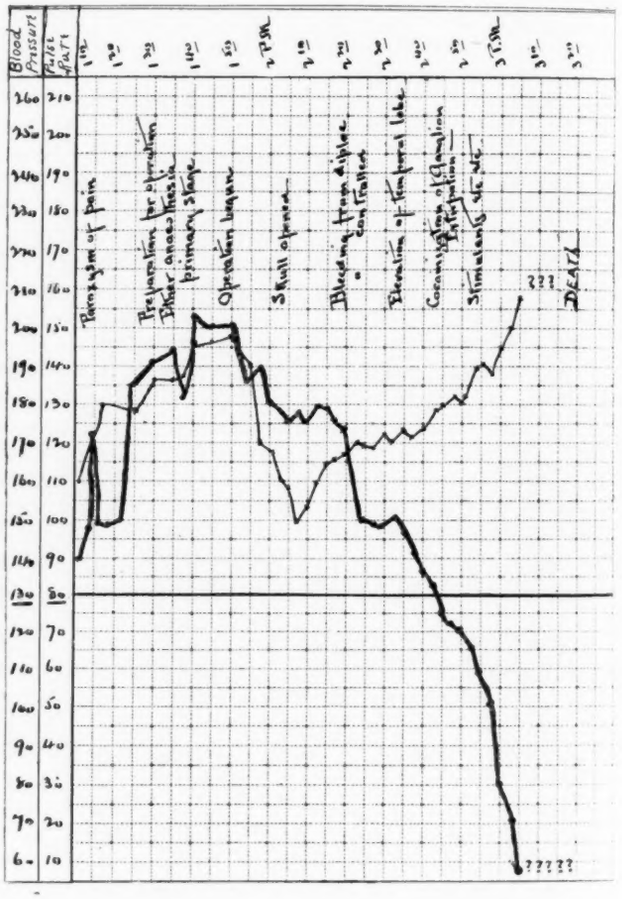

Fig. 3.—Chart of pulse rate and blood pressure in the fatal case. (Case 8.) Note: 1. The rapid pulse (145) and comparatively high blood pressure (200) during the preparation of the patient and early stages of anesthesia (ether). 2. The drop in blood pressure and rise in pulse rate due to a very slight loss of blood from the diploe. 3. The immediate and persistent fall in pressure and increase of pulse rate contrary to the normal reaction during elevation of temporal lobe and removal of the ganglion, this procedure requiring only twenty minutes. Cessation of cardiac action. The heavy line represents the blood pressure and the light line the pulse rate.

I doubt not that it has been the experience of other surgeons, to whom have finally drifted a considerable number of these unfortunates, to find that they have determined to submit themselves to the "deep operation," so called, contrary to the advice of their medical attendants, and have been told that deformity, blindness, insanity and worse is almost an inevitable sequence. Patients (two of them) have later acknowledged to me that they had come to the hospital courting death on

25. An interesting sequel of the hypertension during the paroxysms has recently come under my observation. A woman, aged 64, a sufferer for years with major neuralgia, had a slight stroke of apoplexy after an unusually severe paroxysm of pain. Her radial artery was distinctly palpable, and before the operation (a peripheral one) her systolic pressure in a period of comparative freedom from pain registered over 200 mm. of Hg. It was much higher during a paroxysm. A week after the operation it was about 70 mm. lower.

the operating table. It is from patient to patient, rarely from doctor to patient, that the knowledge of possible surgical relief is passed along, and it is lamentable that this final procedure should be so generally regarded as one "hazardous in its performance and uncertain in its permanent effects."

CASE 1.—Surgical No. 9257. Right-sided major neuralgia originating in the third division. Duration ten years. Two earlier peripheral operations. Total extirpation. Well after four years.

Patient.—James W., aged 63, entered the Johns Hopkins Hospital August 2, 1899.

History.—He gave the usual pitiful story of a sufferer from tic douloureux. He had been a prosperous sea captain until the onset of his neuralgia, which had forced him to abandon his profession, and he had spent the last decade of his life and all his savings in the fruitless endeavor to obtain permanent relief from pain. All forms of treatment, orthodox and otherwise, had been given a trial. He had once been seriously poisoned by strychnia, the dosage having been gradually carried up to 1/7 grain every three hours. He had run the usual gamut of other drugs. Morphia in large doses crazed him, but had little effect on the pain. All his teeth had been extracted. In July, 1896, a peripheral operation was performed with but a few months' respite. In June, 1897, a double operation was undertaken, when both the *N. maxillaris* and *N. mandibularis* were evulsed. The pain returned with renewed energy shortly after. For the past two years he has been practically bed-ridden; has "lived without sleep"; has been for weeks at a time maniacal from pain and from drugs given him for its relief. He returned to the hospital desperate, threatening suicide unless something be done to effectually relieve him.

Character of the Neuralgia.—There is apparently no etiologic factor to which it can be definitely attributed. He has led an exemplary life; had typhoid fever when a young man and the "chills and fever" usual to his district, but remembers no other maladies. Frequent exposure to severe weather has been a requisite of his vocation, but he does not associate the onset of his pain with any such causal factor. The pain originated in the apparently sound teeth of the lower jaw; has spread progressively into the other sensory areas of the fifth nerve and has steadily increased in severity. All three trigeminal divisions are now affected. There is also a cervical and suboccipital extension. There is constant pain in the face, with exacerbations which occur, regardless of apparent cause, with an average interval of ninety seconds. The paroxysms usually originate in the lower lip just below the corner of the mouth, with an abrupt onset, after which the pain quickly spreads across the face, through the eye, into the forehead to the vertex and thence to a spot on the temple where "a final vicious twist" is given to abruptly end the acute stage.[26] The entire paroxysm lasts about 40 seconds. Its onset is described as "a devil twisting a red-hot corkscrew into the corner of the mouth." A diagram was made on which the patient roughly traced the course of the pain. It travels slowly between the points of onset and departure. It does not (as is often the case) dart between the chief pain points. There is also intraoral pain and he often begs to have it taken out of his mouth. A mental and an infra-orbital area of hypesthesia remain in consequence of the peripheral operations. These territories, however, though "numb," are exquisitely sensitive to many forms of stimulation. An accidental touch of the moustache or beard, any movement of the lips, palate or tongue, inaugurate a paroxysm so that talking is almost precluded and deglutition regarded with fearful apprehension. During a paroxysm the trigeminal field flushes greatly, the eye becoming injected, the temporal artery more prominent, and there is an excess of tears and saliva. Immediately after a paroxysm he would stealthily introduce a spoonful of warm liquid nourishment into the sound corner of his mouth and swallow it reluctantly.

Physical Examination.—An emaciated old man, looking fifteen years more than his age. His weight is only ninety pounds. He is unkempt to a degree, with white tangled beard and moustache. The right side of his face is greasy and dirty, having been unwashed for many weeks; the beard is matted with epithelial scales and sebaceous accumulation. He is red-eyed from loss of sleep; saliva drools constantly from his toothless mouth. He writhes frequently with pain, which distorts the right side of his face and occasionally makes him cry out. Unless endeavoring to take nourishment, he lies during his period of comparative freedom absolutely motionless, "always on a strain," apprehensive of the certain return of pain; altogether a most pitiable object.

There were no evidences of renal, pulmonary or cardio-vascular changes to correspond with his apparent age and physical condition August 4, 1899.

Operation.—Chloroform anesthesia. The operation was carried out on the principles laid down in my first paper. The

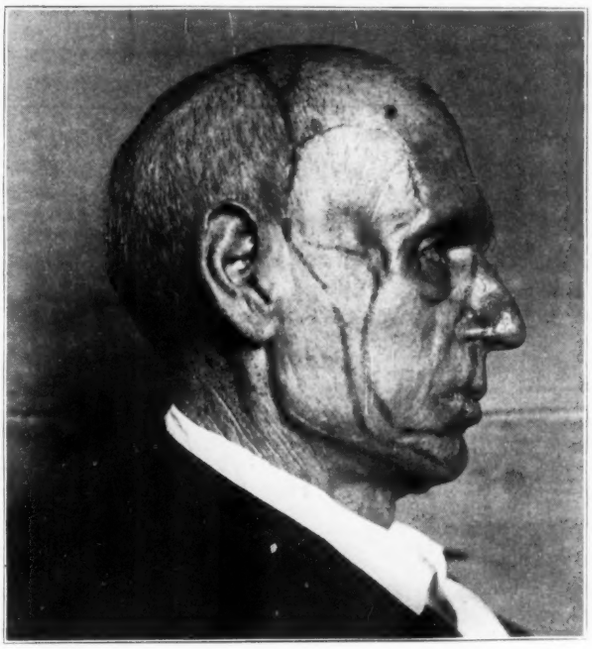

Fig. 4.—Case 1. Ten days after operation. Areas of anesthesia are inaccurate and plotted for pain only. Incision unnecessarily high. Scars of earlier operations.

case proved to be (as later experience has shown) an exceptionally dry one. A much larger skin incision was made than necessary (Fig. 4), and the anterior leg of the incision was carried down to the zygoma. This occasioned a postoperative palsy of the orbicularis, which fortunately was only temporary, and the error was corrected in the later cases. The zygomatic arch was excised. Avoidance of the meningeal artery was easy and no hemorrhage was encountered by the method of approach. The only bleeding which sufficed to cause any delay followed the separation of the inner edge of the ganglion from the side of the cavernous sinus. It was presumed that the sinus was injured. A few moments' pressure of gauze, aided by an inward depression of the spatula used to elevate the temporal lobe, sufficed to check the bleeding completely. Subsequent conditions showed that it had also sufficed to injure the *N. abducens.* The ganglion with the sensory root was extracted practically intact. A portion of the ophthalmic division was later removed from the sinus (cf. Fig. 5 and Dr. Spiller's report[27]). Some cerebrospinal fluid

26. Just as in Jacksonian motor epilepsy, there is evidence often of a definte march of symptoms during the paroxysm from division to division in sequence. The experiments which I undertook with Dr. Barker sufficed to show that the grouping of cells for each division of the nerve is quite distinct. They become involved in the disease process, whatever it may be, in sequence, they "discharge" during a paroxysm in sequence. Sensory epilepsy so-called.

27. Spiller: THE JOURNAL A. M. A., May 5, 1900, p. 1094, Case 1.

followed the extraction. The wound was sufficiently dry to justify closure without drainage. During the late stage of brain elevation the pulse was slowed from its normal level, under the narcotic, at 90, to 50 beats per minute. Duration of operation, one hour and twenty minutes.

Postoperative Notes.—Convalescence was uneventful. He slept uninterruptedly eight hours the night of the operation. "My first long sleep in nine years," he said the next day. There was no postoperative nausea and he began to take nourishment ravenously.

The sutures were removed from the wound on the third day. The healing was without visible reaction. There was slight lagophthalmos of the right eye owing to palsy of the orbicularis from proximity of old infraorbital and recent ganglion incisions. There was internal strabismus. Paralysis also of the sympathetic, causing a greatly contracted pupil. These palsies disappeared in a few weeks and fortunately, considering the slight ectropion from the old infraorbital scar, there has never been any subsequent inflammatory disturbance with the eye. No taste impulses from the right side of the tongue (apparently the left side was not tested, for an examination in May, 1900, showed complete absence of taste perception anteriorly on both sides). A photograph (Fig. 4) was taken on the tenth day, showing the areas of anesthesia as they were then roughly mapped out.

The patient began rapidly to gain in weight and when examined again (May, 1900), after nine months, weighed 130, a

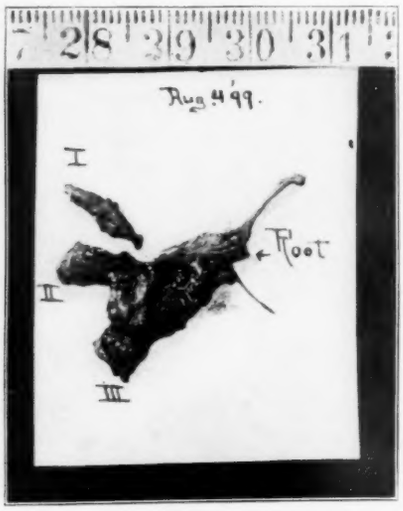

Fig. 5.—Ganglion from Case 1.

gain of 40 pounds. A photograph taken at this time (Fig. 6) shows the area of persisting anesthesia.

It should be noted that in the examination of the ganglion removed in this case, Dr. Spiller found evidence of pathologic alterations in the sensory root. Such a condition had before been observed only in one case, by Krause, though to be sure, comparatively few opportunities had been offered for the study of this structure. In Krause's case, pain returned on the other side of the face, and it naturally led to the suspicion that in these instances in which evident morbid changes had passed beyond the ganglion cells themselves and the sensory root become involved that there might be a recurrence of pain, even after removal of the ganglion. Fortunately, our fears that this might take place in this patient seem to have been ungrounded.

Late Result.—At present, four years after the operation, he writes: "My face has not given me any trouble whatever since the operation was performed, neither have I been troubled with my eye. I weigh 126 pounds, which is my usual weight. My general health is good and I have a splendid appetite."

CASE 2.—Referred to me by Dr. Clopton of St. Louis.

History.—Mr. W. E., aged 55. He had been a prosperous business man, of good habits and sound health, until incapacitated from work eleven years ago by his neuralgia. He had long before been subject to severe hemicranial headaches. The pain originated (1887) in the infraorbital region of the face; it was sudden in onset, and remitted and recurred with ever-

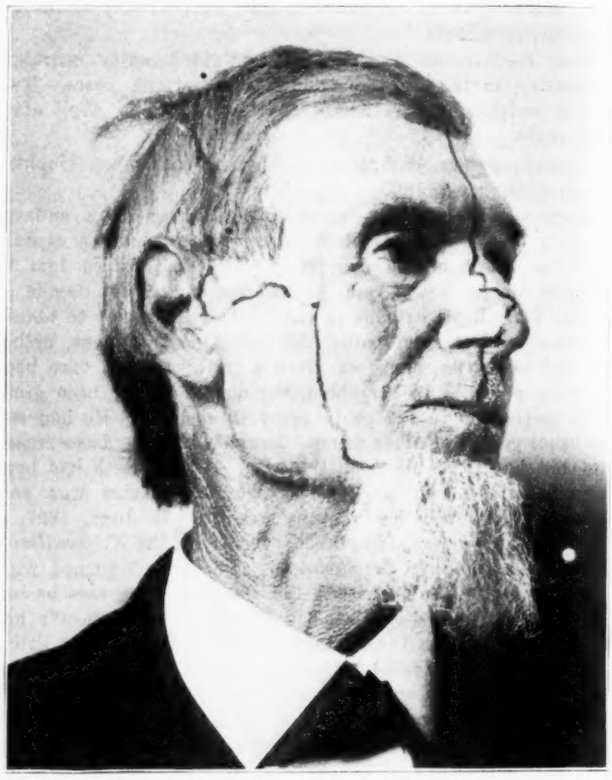

Fig. 6.—Case 1. Nine months after operation, showing area of remaining tactual anesthesia. Zygoma excised, leaving very slight deformity.

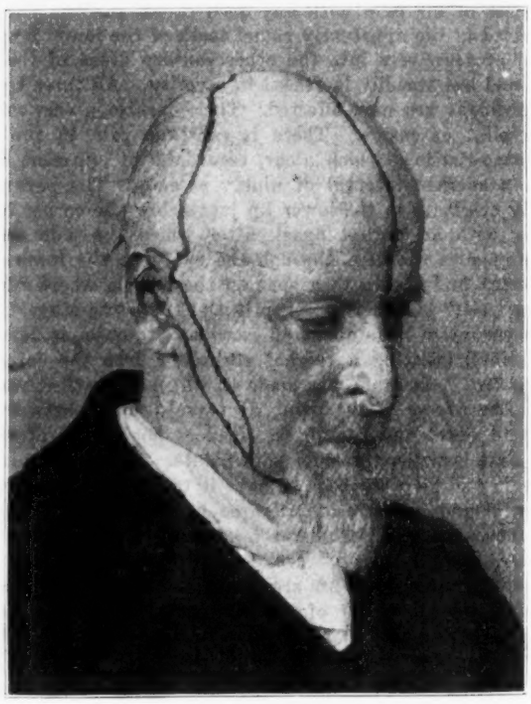

Fig. 7.—Case 2. Eight days after operation. Areas of anesthesia to pain alone. Scar practically invisible.

shortening intervals and increasing severity. All forms of treatment were tried; everything was sacrificed, home, business and savings, in the effort to find relief. The teeth were

extracted. A neurectomy of the *N. infraorbitalis* was performed in 1892, with eighteen months' respite. Pain returned and soon the first division became involved, and not long after the paroxysms radiated through the entire trigeminal area. He had been drugged to the top notch. For several months he had lost all inhibition and had appeared maniacal at times and had been in confinement. There was loss of sphincteric control. Weight, 120 pounds; 40 under normal. He had had for several months rapidly recurring paroxysms, often with only a few seconds interval. Pain had made "a frightful hell of his existence." He represented the most severe possible

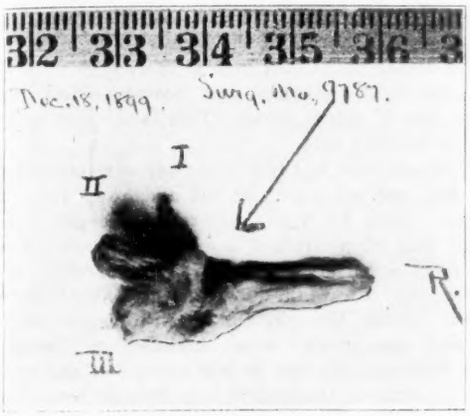

Fig. 8.—Ganglion from Case 2; intact; under surface. Showing motor root lying above sensory root. Arrow points toward imprint of forceps used for evulsion.

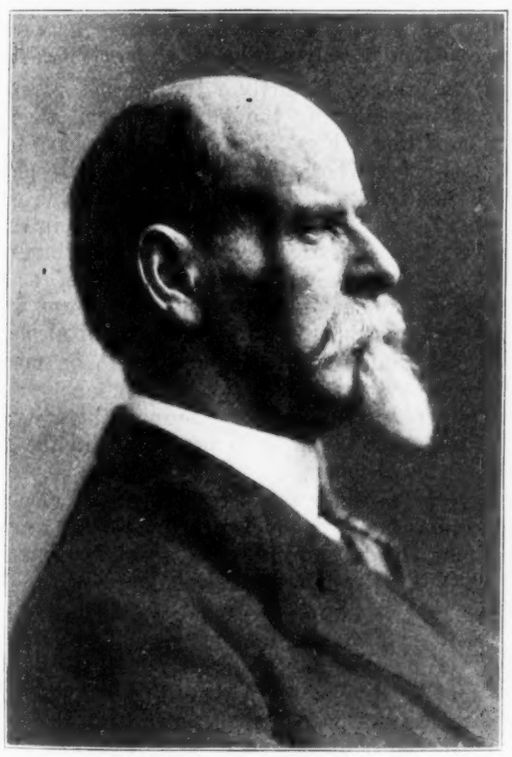

Fig. 9.—Case 2. Photograph taken (three years after operation) with light directly overhead so as to accentuate, by shadows, the deformity from the atrophied temporal and masseter muscles; zygoma replaced in this instance.

type of major neuralgia. I have only seen two other instances which approached it in severity (Cases 7 and 16), and in which from drugs and suffering the patients had become equally irresponsible.

Operation.—December 18, 1899. Chloroform. Duration, 1 hour, 20 minutes. The zygoma was only temporarily resected. This was an exceedingly dry case, without incident worthy of mention. There was usual slowing of pulse to 50 during elevation of brain. The wound was closed without drainage, and the sutures were removed on the second day. Healing was perfect and the scar almost invisible. (Fig. 7). Anesthesia was complete to all forms of sensation in the trigeminal territory and remains so to the present day. Temporary internal strabismus occurred from pressure palsy of the abducens. Tissues (Fig. 8) reported on by Dr. Spiller.[17]

Postoperative Notes.—Nausea was present for two or three days and an abundance of tenaceous saliva for several days. Soon an inordinate appetite appeared. He gained seven pounds in the ten days after operation, and ultimately gained 41 pounds.

He returned to the business he had abandoned years before and has remained (3½ years) perfectly well. There is some deformity from temporal atrophy. (Fig. 9.)

(To be continued.)

SOME MINOR OR BORDERLINE PSYCHOSES OF ALCOHOLISM.*

FRANK PARSONS NORBURY, A.M., M.D.
JACKSONVILLE, ILL.

The following case is representative of a class of minor psychoses, psychoses peculiarly a feature of alcoholism.

CASE 1.—Man, aged 42; married; farmer, with no family history of mental or nervous disease; with no history of previous serious illness; syphilis denied.

History.—For a number of years, at least twenty, has been given to drinking "bouts," not marked with periodicity and largely a self-willed desire to drink more for social reasons and to sustain a reputation which he had earned of being able to drink any man in the county under the table. In addition he was regarded as "the strong man" in the community. He was of athletic build, 6 feet 3 inches tall, weight 370 pounds, proportionately distributed. As a young man he was the champion wing shot, trap shooter and rifle marksman of the county. His desire to excel extended to his ability to drink whisky, and it was his boast that he could drink a quart of whisky a day and not be drunk nor manifest any of the ordinary symptoms of acute alcoholism. Nor did the continuance of drinking over a protracted period of time greatly disturb him. About eighteen months ago, largely on account of his wife and children, of whom he was very fond, and because he found that to keep up the pace he was going was very expensive, he decided to quit drinking, and in his usual manner of doing things he "stopped short," and following this abrupt cessation there was some physical collapse. Soon after he began to complain of indigestion and constipation, and progressive loss of weight. He consulted his physician in a neighboring town, who said there was evidence of disease of the liver and prescribed accordingly. His further history along this line I will mention later.

Present Illness.—The history of the mental aspect of the case was contributed largely by his wife, who was an intelligent, self-possessed and devoted woman. She said that soon after his physical health became impaired he began to show mental peculiarities; he became morose, showed evidences of suspicion regarding her; he would watch her every movement about the house and, finally, one day while they were alone, he accused her of infidelity and named the farm hand employed on the farm as "the second party to the scandal," as he called it. She naturally was very much shocked, hurt and overcome by his accusations, resented them and regarded him as insulting her. She, however, was a sensible woman, and being a woman of high character, secure in her virtue, began to think what all this meant, and her conclusion was that her husband was not himself. She kept this thought to herself for a time, believing

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-fifth Annual Session, June, 1904.

that his condition would change, but instead of improvement she noticed its continuance, but with this striking feature—a marked periodicity of the mental symptoms.

On the day he accused her of infidelity he discharged the farm hand and peremptorily ordered him to leave the country, which he did, but all of the time unaware of the accusation made against him. The young man bore an excellent reputation. He did leave the country, went to Kansas, and has never returned.

However, the patient thought the young man was loitering in the neighborhood and again accused his wife of being untrue to him, saying that she was holding clandestine meetings with him. This opinion continued to grow, but was only a feature every third day. The history says that about every third morning he would awaken with this suspicion fixed in his mind; he would accuse his wife of the clandestine meetings; he was melancholy and would remain in bed, darkening his room, and would not permit his wife or children to enter his room. He woud not eat, nor even take water until toward evening, when this cloud of depression would slowly begin to vanish. Then, perhaps, or if not then, at least the next morning, he would call his wife to him, ask her pardon for his conduct, and would say: "Now, dear wife, those awful thoughts are gone."

For the next two or three days he would, as his wife expressed it, shower his affections on her. He would be up and about the house and attend to his farm duties so far as his strength would permit. This went on for two or three months before the wife felt she could tell her family physician. Up to this time no one except husband and wife knew of these trials and tribulations. The wife noticed that while the periodicity of these manifestations was the same, his conduct toward her was becoming more alarming. He armed himself with a revolver, which he kept under his pillow, and under no consideration would he allow her to handle it or to put it out of his sight. She finally decided that something must be done, especially after one night's experience when he threatened her life. As soon as the period of depression and delusion was over and after he had again asked her pardon, she wisely said to him: "Now, let us call in our family physician and see if he can not agree on some plan to help you." He acquiesced in her suggestion and accordingly the family physician, in the presence of both husband and wife, heard their sad experience. He suggested consultation and it was at this juncture that I came into the case.

Examination.—The patient, at the physician's suggestion, was brought by him to see me. The following briefly is the account of my examination:

For four months or more he has complained of anorexia, fullness and distress after eating, eructations of gas, sometimes fetid, constant expectoration of frothy mucus, some nausea and occasional vomiting. The patient showed evidences of wasting; he evidently had lost nearly a hundred pounds in weight; his muscles were soft and flabby and the skin was not clear. Examination confirmed this catarrhal disturbance of the stomach; there were prominent superficial abdominal veins, a retracted abdomen, liver not palpable, lessened area of liver dullness, a feeling of pressure and dull pain on palpation over right epigastrium.

His heart showed a slightly accentuated second sound at the aorta; no murmurs; pulse was increased, about 90; had slightly increased tension; good rhythm.

The urine was darker than normal; high specific gravity, 1028; urea diminished; urates in excess; oxalates in excess; no sugar; no albumin; indican reaction present; no casts.

The special neurologic examination was negative, except that there was marked history of sleep disorder. His sleep was disturbed and presented the interesting disorder of dreams occurring on the night preceding the day of his depression. In fact, he would awaken from his sleep with a start after a dream, which seemingly was firmly fixed and was to him a reality. This dream, always the same, pertained to the infidelity of his wife. This dream was the basis of what he seemed to regard as facts of this unfortunate affair regarding his wife. I should say occasionally other sexual dreams were present, but never on the night previous to his day delusion.

He presented a picture of remorse as he recited his own version of the story and said in vindication: "Doctor, those thoughts appear to be based on facts as real to me as my presence here." "They come and go and I can not control them." "They are with me when I awaken." "They leave me usually by night."

It seems the delusions were more intense in the morning soon after awakening, and as the day went by they slowly faded. Following this day of delusions he was usually depressed, but he was clear and save for the remorse over his dreadful thoughts, because of the sorrow to his wife, he was in fair spirts, rather optimistic, in fact in everything else, except that he occasionally worried over business affairs and later over some loss of sexual power. This is the history up to his entering on hospital care.

Treatment.—I have had him under my care now about eight months, the first six weeks in bed and away from home. I would have liked to have him remain longer away from home, but this circumstances would not permit. I saw him at least every other day and observed him carefully and noted this periodicity. He would not talk freely about his condition to others. After his physical health began to improve, the mental symptoms were modified in severity, but were not removed. He was in bed under rest and appropriate feeding, and internal medication was directed toward thorough elimination, to correct so far as possible the errors of metabolism indicated in the urine.

Result.—He gained twelve pounds in weight in three weeks and sixty pounds in four months, but in spite of his improved physical condition the delusions have continued with the same periodicity, but greatly lessened in intensity. He says now that the condition "is only a reminder of former beliefs."

When we proceed to analyze the morbid psychology of this case, considering the physical facts, we find a complex condition. First, it is possible we have to deal with a case of cirrhosis of the liver, as the physical history is not unlike that met with in atrophic cirrhosis of the liver. This impression is even intensified by the fact that digestive derangement continues in a mild way. This shows the importance of a broad knowledge of internal medicine as a necessary feature of diagnosis in cases presenting a history of alcoholism.

Second, the differential diagnosis is to be made by considering that this is a toxic case, undoubtedly, and of alcoholic nature. We can eliminate heredity, that remorseless factor which is so prominent in the minor psychoses of alcoholism.

We have to consider the direct effects of alcohol on the nutrition and the factor of personal resistance which should be recognized as of great importance in considering the psychoses of alcoholism.

In this case we have to deal with a man who for years had used alcoholic liquors without apparent bad results until he suddenly ceases; then it is shown that his physical health has certainly suffered and his nervous system has not been made immune to the toxic effects of the alcohol and the cumulative results are shown in this rather unusual intermittent type of mental disorder. I have tried to account for the *modus operandi* of the alcoholic effects in the periodic phenomena and especially of paramnesia, which seems prominent in this case.

It is a fact, as demonstrated by Kraepelin and Smith by their psychophysical experiments that the effect of alcohol is not apparent (in average dose) until late after it has been ingested; then the increase of automatic over voluntary cerebral action is noted. The

taking of alcohol in excess disturbs the functioning of the higher nerve centers and when continued, or by prolonged use of a moderate quantity, or the excessive use of a large quantity, the effects are marked by the increase of the automatic movements. It is a fact that almost every individual under the effects of alcohol is in one "spree" very similar to what he was in former "sprees," or will be in future "sprees," except the gradual tendency to automatic acts ending in dementia.

Again, if the liquors are abruptly shut off for a period of several days in a moderate drinker or for several weeks in an excessive drinker and resumed again, there will be noticed the disturbance of functioning of the higher nerve centers in exaggerated form.

It is not necessary that the alcohol be present in the blood to account for the continuance of marked physical phenomena. For this reason the nutritive changes of certain cortical cells, engendered by the alcohol, has disturbed and made unstable their function, and this instability, according to Bevan Lewis, becomes more or less permanent and the mental anomalies are stereotyped because of this change. Whatever centers of the brain are more prone to disturbance through the agency of alcohol, once their nutritive equilibrium is upset, there seems a tendency to recurrence of the mental phenomena attending this nutritive disturbance.

This is typically represented in the defined cases of alcoholic insanity who are admitted, get well and are readmitted time and time again in state hospitals, and with almost identical attacks. This mental phenomena is represented in minor form whenever the functioning of certain centers is only mildly distributed.

The element of the periodicity in this case is dependent on the essentially alcoholic nature of the original disturbance of local nutritional changes somewhere among the nerve cells. In fact, this very periodicity, together with the character of the delusions and paramnesia, greatly suggest alcohol as the cause of the phenomena.

Paramnesia is one of the interesting phases of mental perversion of alcoholics. It is characterized by the interpretation of illusions of memory as realities in experience. In these conditions the patient believes that his present circumstances, which are in reality new to him, have previously formed a part of his experience. The illusions and dreams, in fact also hallucinations, being the initial experience, it is difficult for the patient to distinguish between this false perception and a true perception in formulating an objective reality. The primary impression, which is imaginary, becomes a reality and is interpreted when revived as being based on fact. Hyslop says of alcoholic cases: "The false memory usually refers to a visual image of persons or places seen, or to motor or kinesthetic images of actions performed." It would appear reasonable to assume that the starting point of the initial illusions of hallucinations were in the cells most immediately concerned with vision and kinesthetic impressions, respectively; but this would give no solution of the delusion as to the actual reality of the object seen or of the action performed.

I have observed a number of such patients who, in the recital of their history, have dwelt on experiences said to have actually occurred, when in reality the patients were in bed under hospital care, or at home under the surveillance of a nurse. One patient, a man, aged about 45, came into my office recently and recited a story, plausibly presented, of an experience he had recently undergone wherein considerable money was involved in the settlement of an estate, and which he strenuously insisted was being put in such shape that he was to be defrauded, also his children. He called to enlist my support of his claim that he was not mentally deranged and that to secure control of this money he must be able to present a clear case before the court. He went into details in regard to the case, and, to one not familiar with mental cases, the story would have appeared as one of unjust discrimination and real appropriation of funds by scheming individuals. The true story, however, showed that the man had no money, that there was no estate and that fifty dollars was the limit of the amount of money which he could command. The story was based on imaginings and yet in his description the details were carefully given and seemed to be an actual experience based on facts.

The character of such delusions is peculiar to alcoholic mental disorders as studied by Morel, Magnan, Lewis and others. I believe my own experience justifies me in saying that sexual delusions, especially of infidelity, are almost pathognomonic of alcoholic mental perversion. In summing up the case, then, I believe the condition essentially borderline or minor psychosis.

1. History.
2. Observation of the physical factors of the case.
3. Character of the delusions—paramnesia, etc.
4. Periodicity of delusions.

The following case is representative of a class of psychoses of adolescent type:

CASE 2.—A young man, aged 24, single, student.

Family History.—Neuropathic; mother died insane at 43; father neurasthenic and occasional drinker. Several brothers and sisters died in infancy or early childhood of cerebral disease; one brother is living and is apparently well and sound.

History.—The patient has been regarded as a peculiar boy, but is bright, intellectual and capable in his studies. When he was 16 years old he entered an academy for boys, preparatory to college; here he acquitted himself with credit, excepting that he was regarded as unsocial and given to being alone. Later, he attended college, where he was regarded as a good student and up to his sophomore year attracted no special attention, except for a violent love affair which, while it lasted, was fierce and furious and attracted the attention of his fellows, who said that it was characteristic of him, and that "he was a shark in anything he undertook." He finished his college career with honors, and during his senior year the boys said "he began to loosen up a little"; he would be convivial and, in a way of his own, always impulsively energetic. He seldom drank anything but beer.

Present Illness.—Later, he entered a professional school in a large city—away from the atmosphere of the small college and where the opportunities for being alone were greater. Here he remained four months, because he suddenly became mentally disturbed and one day, excited and delirious, boarded a train for home, leaped from it before it left the city limits and disappeared for a time. He was found wandering about the city in a state of abstraction—amnesia was a marked feature, and for two or three weeks he was not able to correlate events, etc., nor to recollect his experience. He was taken home; he gave up his college work, engaged in farming and was successful. He continued to use liquor, only occasionally at first, but with disastrous effects. If he uses whisky or brandy to excess there is sure to be a mental explosion, marked by delirium, maniacal excitement, hallucinations, impulses and obsessions to do bodily harm to others. The attacks are usually rapid in onset, for the reason that he can not drink very much, his system rebels and he is soon lost to himself.

These attacks are not those of delirium tremens, but rather a marked mania, brief, but severe while they last. Following this outburst there is a period of melancholy, depression, amnesia and a general collapsed state, which lasts from five to seven weeks.

This case represents a type not infrequently seen and is directly the result of toxic effects of alcohol on the nerve centers. This patient is the victim of a minor psychosis, engendered by the effect of alcohol on a very impressionable and unstable nervous tissue, made so by hereditary influences. He is an adolescent of neurotic type and a fit subject to become a well-defined case of alcoholic insanity, should be continue to drink. My experience in state hospital work is that chronic alcoholism is very productive of insanity and early terminal dementia in such subjects.

This case is one of great importance, as we have a young man with a promising professional career before him cut short by his unfortunate addiction to drink; the essential factor of degeneracy in his makeup intensified by drink cuts him out early in life. Perhaps under suitable regulations, under the careful régime of a physician interested in his career, he could be made to stem these storms, to get away from drink and to become a useful citizen. I am sure that it is a problem, involving more than mere medical care in order to meet it. The treatment of immediate effects of alcohol are problems familiar to us all and are readily managed by rest and symptomatic treatment. It is the question of handling the hereditary delinquent which taxes our ingenuity and resources; in fact, we can only meet this side of the problem by carefully considering all the features and circumstances and then mapping out a plan for procedure. These minor psychoses, under careful regulation of the life of the individual, may be stemmed between the scylla of heredity and the charybdis of alcoholism, if we but make it a problem for a lifetime, rather than a few weeks or months that the patient is under our immediate care.

CONCLUSIONS.

Treatment is successful in the majority of cases where the individual co-operates and learns his limitations. From a study of several hundred cases of minor psychoses of alcoholism, including the "polyneuritic psychoses," marked by amnesia, paramnesia and confusion with marked hallucinations, I am led to the following conclusions regarding these mental disorders:

1. They are rare in acute alcoholism but may appear in adolescents of neurotic type.
2. They are more frequent after adolescence and up to 40 or 45 years of age.
3. They occur both in continuous drinkers and in periodic delinquents.
4. The prognosis is variable, depending on inherited frailties and moral development.
5. Early treatment is advisable as a prevention of major psychoses.
6. Treatment is successful in the majority of cases, providing we have the earnest co-operation of the patients and can have them under our immediate care for a protracted period.
7. Such cases should be distinguished from ordinary chronic alcoholics and should be treated from the standpoint of mental disease.

Better Medical Schools.—An interesting fact is the falling-off in the number of students at medical schools. We are making a great advance in the quality of medical training. The best schools are raising their requirements for admission and their standard of study, and the "one-horse" schools of medicine are fast disappearing. Nothing could be more wholesome than this tendency.—*World's Work.*

TUMORS OF THE BRAIN.

DISCUSSION ON PAPERS OF DRS. KENDIG AND WOLFSTEIN AND BROWN AND KEEN.*

DR. THEODORE DILLER, Pittsburg, Pa., said that he recently recorded a case in which the bone was eroded over the seat of the tumor. At the time of the operation the bone was found to be very thin, and there was evidence of protrusion over the site of the tumor as in Dr. Keen's case. The bone was eroded, quite thin, necrotic and easily cut away. Dr. Diller's colleague, Dr. McKennan, had a case last winter in which there was also a protrusion over the site of the tumor. But in his case the bone, instead of being thin and eroded, was greatly thickened. Dr. Diller stated that Sir Victor Horsley does not suture the dura mater, as he considers it time consuming and unnecessary, and asked what is Dr. Keen's practice in this particular. He also referred to a case of brain tumor operated on by Dr. R. W. Stewart recently. The patient exhibited the general symptoms of brain tumor, severe headache and a high degree of optic neuritis with several generalized convulsions besides three symptoms which, taken together, seemed to point to the frontal lobe: (1) great lethargy, (2) failure of sense of smell on the right side, (3) history of a coughing spell several weeks before in which a considerable amount of pus was expectorated with immediate relief of the headache. This led to a diagnosis of tumor or abscess in the right frontal region; but at the operation no tumor or abscess was found, although the patient's condition was very much bettered by the operation. The laryngologist, Dr. Day, who was called into counsel, thought that the pus might have been due to an entirely independent and intercurrent affection, inflammation of the frontal sinuses with relief of symptoms after the pus had found its way into the nasal cavity and had been coughed up.

DR. CHARLES K. MILLS, Philadelphia, declared that both these cases have points of great interest. In the first place they are interesting as showing what has been learned, from other cases recently, that brain tumors, and even tumors of considerable size and of varying density, may occur without headache, or without headache as a marked symptom. He has noticed that soft infiltrating tumors will not always produce headache, even if the tumors are of large size. Even comparatively hard tumors, however, do not always cause headache. Recently Drs. Spiller, McConnell and Frazier had a case which Dr. Mills saw in consultation, in which, although the tumor was of considerable size and comparatively hard, pain was absent. Another point brought out by one of these cases is the fact that a tumor extending over a very large area of the brain does not always produce symptoms that can be correlated to the functional areas or parts involved in the tumor. In other words, there may be a tumor involving nearly every one of the sets of cranial nerves, and the cranial nerve symptoms will only be referred to one, or probably to two, of these nerves. These cases serve to illustrate that in tumors of the prefrontal region, and especially of the left prefrontal region, there may be psychic symptoms of a special character. Dr. Mills has come to the conclusion that in every case where the diagnosis can be fairly made operation should be performed early.

DR. ALBERT E. STERNE, Indianapolis, emphasized the remarks made by Dr. Mills and reported an illustrative case. A station master in a town about 60 miles from Indianapolis had been in seemingly very good health, when he began to complain somewhat of pain in the left frontal region, and began to harbor delusive ideas that he had made some mistakes in his work and that the auditor of the railway company was about to come down and examine his accounts. The auditor stated that his accounts were absolutely correct, but he still persisted in the statement that he had made mistakes and that he was liable to arrest. The authorities of the railway company ordered that he go south for a vacation, which he did. He grew worse while away and was taken to Dr. Sterne's sanitarium in the following condition: The only symptoms pres-

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* These papers appeared in THE JOURNAL March 11, page 788.

ent were the fixed delusion that he was to be arrested and pain in the left frontal region, with a very slight difficulty in the movements of the left eye. The pain was extremely intense at times, but as in the cases reported by Dr. Keen, it was easily relieved by the administration of a few grains of phenacetin. Ophthalmoscopic examination revealed a very slight beginning stasis in the fundus of the left eye. The diagnosis of tumor of the left frontal lobe was made. Some months previous to all this he had had one convulsive seizure and a vomiting spell, which was attributed at that time to the fact that he had some gastric trouble. Immediate operation was advised and arranged for the following day. Before the time set for the operation the man had a second convulsion and died therein. The next day, instead of an operation a postmortem was performed and the following conditions found: In the left frontal lobe there was an infiltrating tumor which had not reached the cortex at any place nor to within from one-fourth to one-half inch thereof in any particular part; nor was there any evidence microscopically of infiltration of the cortex proper. The tumor was of the glio-sarcomatous variety. The dura was not involved, nor was the pia, and although operation had been advised for this patient, the chief symptom was pain in the left frontal region; that, together with the mental symptoms and very slight stasis, were the only symptoms indicating a gross lesion of the brain. The tumor was about the size and shape of a small egg with ramifications running out from the periphery; it was of an infiltrating character and the ventricle on the left side was almost obliterated, whereas the ventricle on the right side, which was not involved by the tumor, was dilated to an intense degree. The aqueduct of Sylvius was widened, and Dr. Sterne attributed the sudden death to the forcing of the fluid from the right ventricle to the fourth ventricle through the aqueduct of Sylvius. He believes that the man suddenly died from pressure in the fourth ventricle. He could find no other condition which would lead him to think that the man's death was due to any other cause. This illustrates the possibility of death from pressure in the fourth ventricle due to a lesion in the frontal lobe, and is an instance of early diagnosis of cerebral tumor where the objective symptoms were meager.

DR. W. W. KEEN, Philadelphia, stated that he always sutures the dura whenever possible. In many cases one can not suture the dura accurately, but the margins can be approximated within 5 or 6 mm. and very commonly within 1 or 2. The only objection that he can see to it is that it takes a little more time, probably two or three minutes, and he does not consider that a valid objection. Dr. Keen agreed with Dr. Mills that in all cases the operation should be done early, especially after the use of the iodids in suitable cases for a period of about six weeks. He thinks the great difficulty in many cases of tumor is that they have been allowed to go too long, and have become so extensive that the damage to the brain is very great and the dangers and difficulties of operation are enormously increased. He called attention to the very rapid growth of the tumor in the case reported by Dr. Brown and himself. The first symptoms appeared in March and the case was operated on in August, so that in less than six months there was a tumor involving the entire frontal lobe of the brain, in front of the biauricular line, and the right hemisphere as well. It grew rapidly and even gnawed through the bone, so that there were soon holes through which the tumor protruded. In cases of optic neuritis Dr. Keen agreed with Dr. Mills, and in all cases would like to operate as early as possible, after waiting a reasonable length of time for possible localization and for possible effect of remedies. He has found in many cases the optic neuritis to be arrested by operation and in cases of severe headache the relief is almost magical. He recently operated on a case in which not only was the tumor not found, but he had no expectation when he did the operation of finding it, but in any event he desired to relieve the headache. In that case he made a large opening, removed the bone entirely, and allowed the scalp to come directly on the dura. The man's headache was entirely relieved, and the eye symptoms at least have grown no worse; whether or not they will be improved one can not yet tell.

DR. F. W. LANGDON, Cincinnati, said that it was a fortunate occasion which led to the connection of the case reported by Drs. Kendig and Wolfstein with his notes. He was invited by Dr. Kendig to look at a very interesting brain, of which he had no history and no account of the patient. In looking at the tumor, which was a large mass nearly as large as a hen's egg, and which involved the optic chiasm, Dr. Langdon noticed the initials of the patient and asked the man's name. He then referred to his notes and found that the patient was first sent to him seven years before his death by an oculist who had made a diagnosis of locomotor ataxia causing optic atrophy. Dr. Langdon negatived the idea of any ataxia; there was no Argyll-Robertson pupil, though there was a sluggish pupil due to atrophy in the optic nerve; there were no crises nor any sensory disturbance; in fact, nothing on which to base the diagnosis of locomotor ataxia. At that time there was no vomiting, no cardiac symptoms and nothing to indicate brain tumor, notwithstanding that the tumor must then have been in progress. Probably a year and a half afterward the patient came back from another oculist with a diagnosis of paresis, which Dr. Langdon also was compelled to negative. The patient presented no symptoms of paresis with the exception of a mild emotional state and a tendency to weep without cause, but which he attributed to the death of his mother. There were no other symptoms of paresis, and while at times, perhaps, the man felt cheerful, there were undoubtedly times at which he felt unduly melancholy; it was a changeable emotional state with no other signs of paresis. He asked Dr. Langdon's advice about going on the road, as he still had a position, and he was told to go. He came back in rather better condition and asked Dr. Langdon's advice about getting into a home, and some of his relatives put him in a charitable institution. Afterward he was taken to the Cincinnati sanitarium of which Dr. Langdon was the medical director, and admission asked for him in order that he might be under observation to see if anything could be done for his insanity, which had become a state of mild dementia. He still presented no evidence of paresis and no ataxia. There were slightly increased knee jerks, but there were no symptoms indicating either brain tumor or locomotor ataxia; at times there were symptoms of mild dementia. He recognized Dr. Langdon, though it was practically five years since he had seen him. He was always pleasant and always got up off the lounge, where he spent most of his time, when Dr. Langdon entered the ward. After remaining a few months he was pronounced incurable, so far as his dementia was concerned, and he was, for financial considerations, removed to the state hospital. It was within a few days after his removal there that he died. There was neither paresis nor locomotor ataxia, nor any symptoms of brain tumor; and if there had been it is evident that an operation would not have been attended with brilliant results. Dr. Langdon considers the case extremely interesting from the standpoint of its negativeness, and agreed with Dr. Mills that there ought to have been some more grave symptoms. This was a hard, encapsulated tumor which exerted a great deal of pressure on the membranes at the base of the brain and ought to have caused a great deal of pain, which it did not. The case is one of a great deal of interest from this point of view.

DR. F. X. DERCUM, Philadelphia, stated that he had had an opportunity to examine the case reported by Dr. Keen, and could confirm Dr. Keen's statements as to the inconsequential character of the headache. Dr. Dercum mentioned a similar case, on which Dr. Keen had operated, and in which there was most extensive angiosarcoma of the frontal bone with absolutely no headache. The bone was very thin, almost like a piece of writing paper. In another case on which Dr. Keen operated, and which was reported by Drs. Dercum and Keen jointly, Dr. Keen removed an enormous tumor, and, while there was tremendous thickening of the bone, there was, for some unknown reason, no pain.

DR. WILLIAM G. SPILLER, Philadelphia, stated that paralysis

of the external rectus is not always of value as a localizing sign in tumor of the brain, as this nerve, on account of its long intracranial course, may be injured by pressure exerted at a distance. The tendency to silliness on the part of the patient in speaking, and to the attempt to speak like a child, is a little in accordance with the tendency to make jokes observed in case of tumor of the frontal lobe. Dr. Spiller said that Dr. Langdon's report does not state whether there was, in the case to which he referred, bilateral temporal hemianopsia. This condition may be looked for when the tumor is at the chiasm. Tumors at the base of the brain often are exceedingly difficult to diagnose, because of the general symptoms of pressure. Disturbance of smell is in some cases not important as a localizing symptom. Six or seven years ago Dr. Spiller had a case in which there was a tumor over the pons extending downward on the spinal cord, and causing very early loss of smell. Some years ago he had a case in which much thickening of the skull occurred over the tumor, and was caused by infiltration of the bone of the tumor.

DR. B. ONUF, Sonyea, N. Y., asked what should be done in cases of incipient tumors with marked optic neuritis, in which an accurate local diagnosis can not be made. He thinks it has been reported that a relief of pressure is sufficient to bring about a restitution of vision, and he would like to know whether that experience has been repeated. It is of very practical value to know whether an operation should be advised or whether the patient should be advised to wait until an accurate diagnosis can be made. If restitution should take place the patient with optic neuritis would again be restored to vision, and the question arises, how long is it safe to wait; how long can the optic neuritis last and yet recovery take place?

DR. CHARLES K. MILLS, Philadelphia, in replying to a statement, said that he would advise operation at once in a case of the kind mentioned, with this qualification, that sometimes it is advisable to wait for a short time for the development of focal symptoms which are suggestive; even in the absence of such symptoms, however, he believes that operation should be done to relieve optic neuritis or headache, or both. In a number of cases he has seen optic neuritis relieved by operation. He believes that in some syphilitic cases the operation should be done where the diagnosis of syphilitic affection has been made. It is a curious fact that in some cases the anti-syphilitic remedies relieve the symptoms more thoroughly after the opening of the skull, and they should, of course, be continued. He believes that the mistakes which have been made with regard to opening the head have been in the direction of ultra-conservatism.

DR. DAVID I. WOLFSTEIN, Cincinnati, said that it does not seem from the description Dr. Keen gave of his case that it could be confounded with a tendency to joke. A question of interest in connection with the case, inasmuch as the tumor involved the right side, is whether there was anything there present which could be construed as intracerebral ataxia. In the case which Dr. Wolfstein reported, inasmuch as the asylum physician reported the presence of progressive dementia, he thought that he could explain the absence of all general symptoms by the presence of this dementia, but inasmuch as Dr. Langdon does not think dementia was present, it can not be explained on that ground. The tumors at the base of the brain are not necessarily accompanied by intense headache, and the optic neuritis was probably due to pressure on the optic nerve.

Capillary Nevi in the Aged.—A. Bauer, of Paris, holds that the relations between capillary nevi in the aged and lesions or functional disorders of the liver can be absolutely affirmed. The liability to disturbances of the liver during a long life, the frequency of its lesions in elderly people, and the constancy of the occurrence of cholemia, as tested by blood examinations in the cases he examined, lead him to this conclusion, as he announces in a communication to the *Archives Gén. de Méd.*, cxciv, No. 34, 1904.

TWIST OF THE PEDICLE OF OVARIAN CYST COMPLICATING PREGNANCY.

A CLINICAL LECTURE.*

MILES F. PORTER, M.D.

Professor of Surgery and Clinical Surgery in the Fort Wayne College of Medicine.

FORT WAYNE, IND.

Gentlemen:—As our patient is anesthetized, we will proceed at once with the operation for the removal of the abdominal tumor, which you see we have here, and will read the history of the case later. Note that the peritoneum is slate-colored, as it always is with blood under it, and that on opening it a quantity of bloody serum runs out. Now that I retract the edges of the incision, note the color of the tumor, which presents slate in some places and deep cherry in others. I have now tapped the cyst and, as you see, the contents are bloody. I gradually deliver the cyst as it is emptied, and you note the numerous but easily separated adhesions. Through these adhesions these cysts are sometimes nourished after the pedicle has been completely divided by twisting. Now I deliver the tumor and show you here the twist in the pedicle which accounts for the blood in the tumor, as well as for that in the peritoneal cavity. The tumor springs from the right side and the pedicle presents, as you see, two complete sinistrospiral twists in accordance with Freund's law, which is based on the theory of Goodsir and Fisher, that all organisms grow in a spiral direction, left-sided ones twisting to the right and vice versa. The ligature is placed on the constricted portion of the pedicle and the sac removed. Now that it is out of the way, I show you, in the left of the pelvis, a good-sized, semi-fluctuating, flesh-colored tumor, which is the uterus pregnant about three months. We will now close the incision in the usual way with layer catgut sutures for the deeper structures and adhesive plaster for the skin. We will direct that this woman be given a hypodermic of morphia should there be any symptoms indicating miscarriage. However, I do not expect her to miscarry, as it is not the rule for these patients to do so. This is the fourth case of the kind in my practice and not one of them has aborted.

HISTORY OF CASE.

Let me now read you the history of this case as it was transcribed by me on her arrival at the hospital, about two hours ago.

Patient.—Mrs. M., aged 24, married four years, mother of two children, the youngest 18 months old.

History.—She made good recoveries from all her labors but thinks her abdomen has been large since her last confinement. When her last baby was three months old she commenced menstruating and did so regularly until July last, since which time, three months, she has not menstruated. She has always enjoyed good health. Several cousins and one aunt died from tuberculosis. Six days ago she was taken with pain in the right side of the abdomen, low down. The pain at first was not very severe, but became so in an hour, and a physician was sent for, who prescribed an opiate. Vomiting occurred soon after the onset of the pain and, like the latter, has continued, but has been controlled in a measure by the opiates. The pain seemed to spread and the whole abdomen soon became tender to the touch. Her bowels had been regular up to the onset of the trouble, since which time they did not move, notwithstanding rather vigorous efforts to make them do so, until yesterday.

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*Delivered at Hope Hospital.

Her physician, Dr. Thomas of Decatur, suspected either appendicitis or an ovarian tumor with torsion of the pedicle.

Present Condition.—Well nourished, good color, pulse 120 a minute and of fair volume. Temperature, 100.2 F. Abdomen as large as that of a woman at or near term, and regular in contour.

Physical Examination.—This was quite unsatisfactory on account of extreme abdominal tenderness, which is general. However, a fluctuating tumor can be made out and the uterus seems large and has a soft cervix. There is no localized abdominal rigidity.

Diagnosis.—Pregnancy, complicated with ovarian cyst with torsion of the pedicle and consequent peritonitis. Immediate operation advised and accepted.

You are fortunate, gentlemen, in having the opportunity to see this case, because of the fact that they are not of very frequent occurrence and for the additional reason that they are, in a measure, emergency cases and therefore not often presented for clinical demonstration. The case, too, is quite typical of its kind and this adds to its practical value. This patient thought that she was unusually large but was not aware that she was the possessor of a tumor until she was told by the physician. Quite commonly these patients regard themselves as entirely normal until the torsion of the pedicle occurs, when an examination leads to the discovery of the tumor. As a result of the torsion, these tumors often enlarge rapidly. This is due to the hemorrhage into them and is explained by the fact that the twist relatively completely stops the return of the blood through the outer side of the pedicle, which, as you see, is quite thin, while the inner side, carrying the principal arterial supply, is quite thick and less easily strangulated. The amount of the hemorrhage, both within the tumor and into the peritoneal cavity, varies and may be so great as to prove alarming or even fatal, though this is rare.

I wish to call your attention particularly to the symptoms of bowel obstruction which were present in this case. This is a quite common cause of complaint in these cases. I can now recall two or three cases of torsion of the pedicle of ovarian cysts which were referred to me with the diagnosis of bowel obstruction and in which no mechanical obstruction was found. The bowel may, of course, be involved in the twist or it may be obstructed as a result of adhesions which form as a result of it, but my experience has been, as in this case, that the obstruction is adynamic in character and is a result of the peritonitis or of inhibition of the peristaltic movement consequent on the accident. Both of these factors were probably active in this case.

The treatment of this accident is, of course, operative, and, in my judgment, the sooner the operation is done the better. There are those who advise awaiting reaction when shock is marked, but I do not agree with them, for if the shock is due to hemorrhage it is likely to recur with the establishment of reaction. On the other hand, if the shock is the result of pain and nervous perturbation the anesthetic relieves both of these conditions and the removal of the tumor takes away the cause of them; hence, in my opinion, the best plan is immediate operation.[1]

1. At present writing, three weeks after the operation, the patient is up and ready to leave the hospital for her home. Her recovery was uninterrupted by a single untoward symptom.

The shortest and surest way to prove a work possible is strenuously to set about it; and no wonder if that proves it possible that for the most part makes it so.—South.

THE BLOOD IN LOBAR PNEUMONIA,

WITH REMARKS CONCERNING TREATMENT.*

EDWARD C. ROSENOW, M.D.
CHICAGO.

BACTERIOLOGY OF THE BLOOD.

Of the total number of 175 cases of lobar pneumonia in which I have made blood cultures, 145 cases were reported in another article,[1] and 30 have been made since. In this series of 175 cases the pneumococcus was isolated in all but 15—that is, in over 91 per cent. Usually, only one culture (3 to 4 flasks) was required to demonstrate the presence of pneumococci in the blood, though occasionally a second culture was necessary to obtain the organism. In 11 of the 15 negative cases, only one culture was made, there being no opportunity for a subsequent examination. In the remaining 4 cases it was impossible, by repeated cultures, to demonstrate the pneumococcus in the blood. In one of these 4 a careful search in smears prepared directly from the blood showed undoubted pneumococci.

The leucocytosis in these 4 cases was high, and I was inclined to believe that the negative findings were the result, possibly, of an active phagocytosis; but the fact that in other cases with equally high leucocyte counts there were positive results, made this explanation seem improbable. A closer study showed that the cultures with negative results were made within twenty-four hours of crisis, while the cultures which resulted positively were made two or more days before crisis. Hence there seems to be a diminution in the number or viability or both of the pneumococci in the blood at the time of crisis. To this we will return later. Positive results were obtained as early as twelve hours after the initial chill, and as long as forty-eight hours after crisis. Cultures after crisis, however, usually proved sterile.

The mortality in the series studied was almost 40 per cent. The percentage of positive results, excepting the last twenty-four hours of life in the fatal cases, is equally high in the fatal and in the non-fatal cases. This seems to justify the conclusion held by Fränkel, Prochaska, Kinsey and others, that with proper technic blood cultures are of little or no prognostic value, because positive in both the fatal and non-fatal cases. A negative result indicates nothing, except probably that something is wrong in the technic. This is very well illustrated by the investigation of F. C. Kinsey,[2] who studied the blood in 50 cases of pneumonia in the same epidemic. In his first 25 cases positive results were obtained in only 3. After modifying his technic, however, the results in his next 25 cases are practically the same as in this series. Fränkel has had a similar experience.

That the pneumococcus is not only present, but present in large numbers in the blood, as Preble recently showed in a number of cases, is indicated by the fact that by direct examination of smears in this series the pneumococcus was found in 47 out of some 80 cases examined. In no instance could I demonstrate pneumococci in leucocytes.

In the light of these findings we would certainly be

* Summary of an investigation carried out in the Pathological Laboratory and in the Presbyterian Hospital, under the Alumni Fellowship Fund of Rush Medical College. This paper was read before the Chicago Medical Society, 1904.

1. Journal of Infectious Diseases, March, 1904. Here also is given a review of the literature.

2. THE JOURNAL A. M. A., March 19, 1904.

more justified in asking why we do not have complications in every case, than by asking how this microorganism gains entrance to the remote parts of the body.

In the atypical pneumonias and in vague infections where the diagnosis is otherwise difficult or impossible, blood cultures are of great value. Thus in a case which Dr. J. L. Miller kindly allows me to report, the blood culture was the means of deciding in twelve hours whether an atypical pneumonia following pregnancy was due to a streptococcus infection secondary to a probable uterine infection, or to a pneumococcus infection independent of the pelvic condition. The patient recovered after developing an empyema in which the pneumococcus was demonstrated in pure culture. In 5 other cases in this series the blood examination was the means of making the diagnosis.

By the aid of blood culture the number of cases of pneumonia in which the pneumococcus is found in the blood before any physical findings are present is constantly growing; indeed, cases of pneumococcus infection of the blood have been observed by Preble and others in which no physical signs of consolidation of the lungs were demonstrable, and yet the course was typical of pneumonia. Invasion of the blood in this present series seems to have been primary in point of time in at least some cases, and the view that pneumonia may be the secondary localization of a primary blood invasion and not a local disease seems to be gaining ground.

CELLULAR CHANGES IN THE BLOOD.

Böckmann has demonstrated that in pneumonia, as in other acute infections, the number of erythrocytes are inversely proportionate to the degree of temperature. There is scarcely any infection in which the production of anemia is so rapid as in pneumonia.

It is not necessary to speak here of the diagnostic value of leucocyte counts, but I wish to emphasize the impossibility of making a reliable prognosis in pneumonia from the leucocyte count alone, except where there is a marked leucopenia; when studied in relation to the clinical picture, which is of the utmost importance, however, the leucocyte count becomes at once of great prognostic significance. Other things being equal, a high leucocytosis is a favorable sign. Thus in 16 fatal infections out of 40 cases studied, the average leucocytosis is 12,000, while in the remaining cases with recovery the average is 20,000.

Patients with excessively high leucocyte counts are apparently more prone to the development of empyema and other complications, although it is very difficult to say whether or not the hyperleucocytosis is not the result of an already infected pleura, etc., not demonstrable clinically.

In my previous paper, it is shown that there exists a very close relationship between leucocytosis and blood invasion of pneumococci in the rabbit. Believing that a knowledge of the exact number of pneumococci per c.c. of blood in pneumonia with a simultaneous leucocyte count would throw important light on the exact rôle the white corpuscle plays in this infection, I applied the plate method to the study of the blood in pneumonia, as I had done in the rabbit experiments. In this way I was able to show that the higher the leucocytosis the fewer the number of viable pneumococci in the circulating blood, and vice versa. Thus in seven patients with leucocytosis ranging from 35,000 to 43,000, the number of pneumococci which developed was very small indeed, varying from 0 to 25 per c.c. of blood. On the other hand, in cases of graver infection where there was a leucopenia, or only a moderate leucocytosis, the number ranged from 100 to 1,350 per c.c.

THE AGGLUTINATING AND ACID-PRODUCING PHENOMENA ASSOCIATED WITH THE GROWTH OF PNEUMOCOCCI IN PNEUMONIC SERUM.

In the agglutination tests the serum from 96 patients and 55 strains of pneumococci were used. Feeble agglutinating reactions were obtained as early as the second day of the disease, gradually growing more marked as crisis was reached and diminishing gradually thereafter. The highest dilution at which agglutination could be obtained was 1 in 50. Owing to the difficulty involved, the agglutination of the pneumococcus is of little practical value, being principally of scientific interest.

Normal and pneumonic serum in the test-tube have no bactericidal property toward the pneumococcus. It grows equally well in both, with this important difference, however: in normal serum the growth produces scarcely any appreciable precipitation, while in pneumonic serum a voluminous sediment appears, associated with the production of a well-marked acid reaction. By a series of experiments too long to detail here I have been able to prove that this sediment is a direct result of acids present.

This observation led at once to the following question: Does the pneumococcus, by its growth in the consolidated lung and in the blood of the patient during life, produce acids as it does in the test-tube, and if so, may not some of the symptoms of pneumonia be due to an acid intoxication?

In support of this view we now have the following evidence:

1. It has been shown in this investigation for the first time that the pneumococcus, when grown in pneumonic serum, produces a marked acid reaction.

2. A careful study of the literature seems to justify the statement that late in pneumonia after the powers of resistance fail, and after death, investigators have uniformly found a diminished alkalinity of the blood.

3. Smith and others "find a uniformly acid reaction of the lung tissue in patients dying from pneumonia."

4. Through the kindness of Dr. Frank Billings, I am able to report the following observation: In the treatment of 7 cases of pneumonia by the administration of large doses of alkalies, it was noted that the urine became strongly alkaline in reaction, and remained so until the time of crisis. At this time, however, when the products of resolution were being rapidly absorbed, the urine became acid in reaction for a period of time varying from twenty-four to forty-eight hours in 4 cases. In 3 cases the urine instead of becoming acid was neutral in reaction during the same period, but with an increased dosage of alkali, in all cases the urine subsequently became alkaline.

These findings point in the direction that pneumonia is an acid intoxication. Granting this, would not the administration of alkalies in large doses be indicated in the treatment of this disease? In fact, we may here have a rational explanation of the good results claimed by some investigators from the continuous administration of alkaline waters, etc., in the treatment of pneumonia. In the service of Dr. Billings at the Presbyterian Hospital, the alkaline treatment of pneumonia has been used clinically for nearly a year. From 1 to 3 drams of sodium bicarbonate, dissolved or suspended in at least 4 ounces of water, is given every two hours by mouth.

When patients are unable to swallow, larger doses are given by the rectum. No other treatment has been used except that, when necessary, free catharsis has been instituted and an attempt made to retain the heart's strength by venesection, and by the use of heart tonics when indicated; this, however, is usually unnecessary.

Special Article.

IMMUNITY.

CHAPTER VIII—CONTINUED.

TOXINS AND ANTITOXINS.

There is a large class of organisms which apparently produces no soluble toxin; such organisms, however, cause highly toxic diseases (e. g., typhoid, cholera, plague). The dead or ground-up bodies of such bacteria are very toxic; also when the germs disintegrate by a process of autolysis or self-digestion the culture medium becomes toxic because of the cell contents which are set free. Such organisms are said to contain intracellular toxins or endotoxins. In infections by them it has been supposed that toxic symptoms are produced when a sufficient number of the bacteria become dissolved through the action of the body fluids or some of the cells (phagocytes), the intracellular toxins being thus liberated. Nothing is known of the nature of such toxins. They certainly are very different from the soluble toxins of diphtheria and tetanus, since immunization with them has not as yet resulted in the production of efficient antitoxins. Buchner gave the name of "plasmin" to the cell juice which he was able to express from some micro-organisms.

Intracellular Toxins, or Endotoxins.

McFadyen, by grinding large masses of typhoid bacilli which had been rendered brittle by the temperature of liquid air, obtains from this organism a toxic cell juice. The efficiency of the antitoxin which he is said to obtain by immunization with this material has not been demonstrated practically. It seems improbable that immunization with this "toxin" will yield a serum differing in properties from that obtained by immunization with the living organisms.

The McFadyen Method.

Toxic substances obtained from bacteria by the action of strong chemicals and extracting fluids, of course, may not represent the primary and essential toxin of the organism, but perhaps some disintegration product which happens to be toxic. Here also the immunization experiment must be resorted to in order to determine the toxic or non-toxic nature of the substance.

Accidental Toxic Substances.

It is, of course, common knowledge that an antitoxin is the blood serum of an animal, after the latter has been rendered highly immune by repeated injections of the appropriate toxin. The horse is chosen for immunization because of its marked ability to yield antitoxins (diphtheria, tetanus), because of its size, withstanding much loss of blood, and because of the readiness with which it submits to manipulation.

Commercial Preparation of Antitoxins.

Manufacturing plants which produce antitoxins and other antiserums on a large scale, have splendidly equipped stables, which are kept in the maximum hygienic condition, and from which rats in particular are rigorously excluded.[2] The horses are carefully groomed and fed and given such exercise as will keep them in a healthy condition.

The toxins, in solution, are injected subcutaneously.[3] Grave and even fatal reactions may follow the first injections, if the toxin has been given in too large doses or in too concentrated solutions. This is especially true when injecting tetanus toxin. It is of great importance first to establish what the Germans call a "*Grund-immunität*," which means a primary immunity in the animal itself so that the immunization may then be pushed vigorously until the blood contains antitoxin in high concentration. For this purpose it has been found necessary to weaken the first toxins injected. This may be done by heating the toxin solution to 65 to 70 C. for an hour; by adding to it from 0.05 to 0.4 per cent. of the trichlorid of iodin; or by adding a solution of potassium iodid in which iodin has been dissolved (Lugol's solution). High dilutions of the unaltered toxin may also be used. Gradually the virulence and amount of the toxin injected may be increased until finally the full virulent toxin is given in large doses. The increase in dosage must be very gradual. Eventually as much as a liter or more of diphtheria toxin is tolerated.

The "Primary Immunity."

Attenuation of Toxins.

Following each injection, a reaction occurs. With diphtheria the local swelling may be great, and sloughing may occur. Following an injection of tetanus toxin, tetanic symptoms may appear. In either case, there is some loss of weight and often fever, and another injection must not be given until the original weight is regained and the general behavior of the animal indicates that its former healthy condition is reestablished. This interval is usually from eight to fourteen days.

From two to three (sometimes more) months of such treatment are usually sufficient for the production of diphtheria antitoxin in high concentration. At the end of this time blood is drawn from the jugular vein by means of a large trochar to which a rubber tube is attached. The tube leads to a tall glass cylinder holding from one to two liters, and into this the blood is allowed to flow. Six liters may be drawn safely from a horse of average size.[4] The most rigid asepsis is, of course, observed in taking the blood. The glass cylinders, appropriately covered to prevent contamination, are then set in a cool, dark place, and after the serum has separated from the clot samples are taken to be tested for their antitoxin value.

The serum, in bulk or after being bottled for the trade, is preserved at a low temperature and in the dark, 0.5 per cent. of carbolic acid having been added to insure sterility. The addition of the acid may cause harmless cloudiness in the serum, but does not destroy the antitoxin.[5] Serums may be preserved perfectly in a dried or frozen state.

Preservatives of Serums.

Many facts of scientific and practical importance have been brought to light through the immunization of animals on a large scale. It has been found, for example, that following each injection of toxin the amount of antitoxin in the blood suffers a reduction, and only equals or rises above the previous amount eight or ten days later. This decrease is explained by assuming that the toxin has to a certain extent united chemically with the circulating antitoxin. It indicates also the period at which the horse should be bled in order that the greatest amount of antitoxin may be obtained. It might even be dangerous to draw the blood before this time had elapsed since possibly some free toxin might still remain.

It is noteworthy that all horses are not equally good producers of antitoxin. One may yield a serum of three times the

2. The importance of this is very great, if, for example, horses are receiving injections of some virulent living micro organism (as the plague bacillus). In this case living micro-organisms reach the general circulation, and a rat having bitten the animal could well contract the plague and be an evident source of danger, not only to other animals, but to the community at large. Even fly-proof stalls are properly instituted in such cases.

3. For the production of antivenin the snake venom is best injected intravenously.

4. Some horses may be bled as many as forty times without suffering a conspicuous deterioration in health. In time, however, an animal becomes less valuable as an antitoxin producer.

5. The Pasteur Institute, which prepares the serums used throughout France in addition to placing them on the general market, adds no preservatives to its serums, but sterilizes them after they are bottled by heating them for three successive days to a temperature of 40 C. for thirty minutes.

value of another, although the two have been treated identically and seem to be equally immune to the toxin.

Another most interesting fact is that although the blood of an animal may be very rich in antitoxin, he still may have a disproportionate susceptibility to fresh injections of the toxin.

Many of these phenomena have not been explained satisfactorily.

Standardization of Toxins and Antitoxins.

The necessity of standardizing antitoxins so that dosage may be controlled accurately is self-evident. To meet this need the antitoxin unit familiar in practice was devised.

Normal Toxin.

It was necessary to decide on some arbitrary unit of measure. The only means we have of estimating the value of an antitoxin is its ability to neutralize its corresponding toxin. Consequently, in order to standardize antitoxin it was first necessary to devise some unit of measure for the toxin itself. For this purpose Behring's toxin unit is generally used. A diphtheria toxin was designated normal when it was of such strength that 0.01 c.c. would kill a guinea-pig weighing 250 grams in four days. The value of any diphtheria toxin may be computed on this basis; it may, for example, be of two or of ten-fold strength, or, on the other hand, of one-half or one-fourth the normal strength.

Normal Antitoxin and the Antitoxin Unit.

Measuring the antitoxin on the basis of the toxin unit it has been determined to consider an antitoxin of normal strength when 0.1 c.c. will protect a guinea-pig of 250 grams against 100 fatal doses of diphtheria toxin. This value is called the antitoxin unit. If the serum is only one-tenth normal then the antitoxin unit is contained in 1 c.c. of the serum instead of in 0.1 c.c. If it is of one hundred-fold value, the unit is represented in 0.001 c.c. of the serum.

Degeneration of Toxins.

In order to test various antitoxins uniformly it would be desirable to have a toxin which could be preserved a long time without losing any of its toxicity. The toxins, however, degenerate in time so that they are unreliable as standards. As will be shown, they lose their toxicity, but at the same time retain their binding power for antitoxin, so that tests made with such a degenerated toxin would not indicate the true neutralizing value of an antitoxin, and the results obtained with various antitoxins would have no comparative value.

Permanence of Antitoxins.

Antitoxin, on the other hand, does not degenerate so readily, and when a serum is dried and kept in a bottle free from oxygen and from moisture it remains unaltered for an indefinite period. Consequently, it has been found that the most accurate and uniform results are obtainable when a dried antitoxin, of known strength, is used as the starting point for valuation tests. The actual strength of such a test serum is not of prime importance, but for certain practical reasons it is desirable to possess as a standard an antitoxic serum of high value. In any case, its value in terms of the conventional antitoxin unit must be known.[6]

Dried Antitoxin.

The methods of testing diphtheria antitoxin which are employed in the Royal Prussian Institute for Experimental Therapy at Frankfurt, of which Ehrlich is the chief, may be taken as a model. The standard test serum employed by Ehrlich is a dried and powdered serum of such strength that 1 gram contains 1,700 immunity units; i. e., 1/1,700 of a c.c. will protect a guinea-pig of 250 grams weight against 100 fatal doses of a diphtheria toxin. The institute keeps in stock a large number of vials, each containing two grams of this dried serum. The air and moisture are exhausted from each vial and the latter is then sealed in the flame. Once in three months one of these vials is broken open carefully and the serum dissolved in 200 c.c. of a solution made up of equal parts of glycerin and 10 per cent. salt solution. This is a dilution of 100 times, hence the serum now has a 17-fold antitoxic value; i. e., 17 times stronger than the so-called normal antitoxin. For the succeeding three months this antitoxin solution is used in the comparative valuation of new antitoxins; the solution retains its strength unaltered for this period. 1 c.c. of the 17-fold antitoxin is, for the purpose of the test, considered as the unit.

Determination of the Value of Diphtheria Antitoxin.

The first step in the process is to standardize some diphtheria toxin which may be selected for the test. This is done by adding so much of the toxin to 1 c.c. of the test serum that an excess of one fatal dose of the toxin remains unbound by the antitoxin. The guinea-pig which receives this mixture dies in 4 days. The amount of toxin thus determined is used as the test dose of toxin in determining the value of the new antitoxin. If 1 c.c. of the new serum also neutralizes all but one fatal dose of toxin (the guinea-pig dying in four days) it also is of 17-fold strength. If it requires 4.25 c.c. it is then a serum of "normal" strength.

For therapeutic purposes, it is desirable to have a serum of high value in order to avoid giving too large quantities. Several diphtheria serums are on the market which have a value of 500 units to the cubic centimeter. It is difficult to immunize above this point.

Tetanus Antitoxin in the United States.

Similar principles prevail in the standardization of tetanus antitoxin. Unfortunately in this country tetanus antitoxins are standardized with no degree of accuracy. With the exceptions of the commonwealths of New York and Massachusetts the manufacture and standardization of serums in the United States are in the hands of the manufacturers, who, of course, are private individuals or corporations. Although their work is usually well done, the advisability of some uniform oversight is very great.

Possibility of Dangerous Toxins in Serums.

In addition to the need of knowing the exact antitoxic value of a serum, it should be determined positively that there is no contamination of the serum, and especially that no adventitious toxin is present. We can not readily forget the few instances in which fatal tetanus has resulted following the injection of diphtheria antitoxin.

(To be continued.)

6. In Germany the various serums are prepared by private individuals or corporations and manufacturers are required to send a sample of every lot of serum intended for the trade to the Frankfurt Institute that its exact value may be determined. Each bottle eventually receives a stamp signifying the value in antitoxin units of the contained serum. Moreover, samples of every lot of serum are retained in the institute, and from time to time these are tested; and when it is found that the samples have degenerated beyond a certain value the order is sent out to call in all serum belonging to the degenerated lot. As a further illustration, when a manufacturer thinks the serum of one of his horses has a high value he may draw a small amount of blood from the animal and send the serum to Frankfurt for a preliminary test. If the serum is sufficiently strong he may then bleed the horse freely; if it is weak he will be advised to continue the immuunization for a time.

Clinical Report.

PAPILLOMATOUS GROWTHS OCCURRING IN THE LARYNX OF THE CHILD.

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Because of the greater danger to life through suffocation and the greater difficulty encountered in the removal of these growths in the child than in the adult, this subject is especially deserving of consideration alike by the general practitioner and by the specialist.

CASE 1.—T. E., aged 11, was sent to me Nov. 6, 1902, by Dr. W. F. Hall of McLeansboro.

History.—The patient had been singularly free from the diseases of childhood and has always had good health. For the past eighteen months he has been hoarse, and for twelve months his voice has been reduced to a whisper. For six months he frequently has been aroused from sleep by attacks of choking and inability "to get his breath," and now, even in his waking hours, his breathing is labored.

Examination.—The surface of the body was free from warts or new formations of any kind. The nasal passages and fauces were not diseased. Laryngoscopic examination disclosed a whitish cauliflower-like growth springing from the front of the larynx, obstructing the anterior half of the glottis and covering the right vocal cord.

Operation and Result.—November 7. After penciling the larynx three times with a 6 per cent. solution of cocain at intervals of three minutes, an intralaryngeal snare was passed, under the guidance of a laryngoscopic mirror, and a piece of the growth weighing 24 cg. was removed. November 8 and 9 additional portions of the growth, weighing 18 and 12 cg. respectively, were snared off. In all, some ten sittings were required for the entire removal of the tumor. At the time of his last visit to my office, December 27, the voice had been regained. Two years later his father wrote me that some hoarseness had developed, but not enough to bring the boy back for treatment.

CASE 2.—B. T., aged 19 months, was brought to my office June 19, 1903, because she breathed with an effort and was voiceless.

Examination.—The nose and throat were free from obstruction. I was wholly unable to see the interior of the larynx with a laryngoscope because the child would not remain quiet. A diagnosis was made, however, of an intralaryngeal growth.

Subsequent History.—I did not see the child again till Dec. 6, 1904. The symptoms were very much worse and the child was unable to sleep for want of air, while at all times the breathing was so labored that at each inspiration the neck muscles stood out cord-like with retraction of the upper thorax and supraclavicular region. It was apparent that she might die from suffocation at any time.

Operations and Result.—The child was sent to St. Mary's Hospital. The resident physician, Dr. Stauffer, administered the anesthetic, and with the assistance of Dr. J. N. Jerome I performed an inferior tracheotomy and inserted a small tube into the trachea. The child slept well that night, and two days later chloroform was again administered, this time through the tracheal tube, and an effort made to see into the larynx from above. I obtained a very hasty glance and thought I could make out a laryngeal growth. Thyrotomy was performed, leaving, however, the upper part of the thyroid cartilage undivided. With retractors the halved cartilage was widely separated and after spraying the larynx with a 5 per cent. cocain solution and a 1-5,000 adrenalin solution, masses of a soft, mulberry-like growth of a pinkish white color were removed from the right cord by means of a Weber ear snare and a large-sized intratympanic ring knife. The thyroid cartilage was sutured with catgut and the skin wound closed with an interrupted black silk suture. The operation required one hour and a half and was attended with only very slight loss of blood. The tube was left in the trachea. No elevation of temperature followed this or the preceding tracheotomy, and the child continued to take nourishment and to gain in color and strength. During the next six days the tracheal tube was regularly removed for cleansing, and a number of attempts were made to dispense with the tube, but each time labored breathing followed and necessitated its reintroduction. Under chloroform anesthesia, additional attempts were made at laryngoscopic examination for the purpose of locating and removing the obstruction, but, because of an overhanging epiglottis and the rapid filling of the pharynx with mucus, we did not succeed. December 16, Dr. Jerome again assisting, chloroform was administered, the thyroid cartilage reopened, and after local cocain anesthesia, another mass of the growth was removed from the left vocal cord and the subglottic space immediately beneath it. The thyroid cartilage was again stitched with catgut and the skin was united with five interrupted silk sutures reinforced by strips of zinc adhesive plaster. The patient was permitted to come well from under the chloroform anesthesia, after which the tracheal tube was removed; easy breathing followed through the natural passages. By daily reapplication of strips of the adhesive plaster the inferior tracheotomy opening was held in coaptation and the child made an uninterrupted recovery.

December 27, the voice had returned so that she could be heard and understood all over the room. She was discharged from the hospital. A letter from her father, Feb. 7, 1905, stated that the skin opening had closed, that the child ate and slept well, talks all the time, and that they felt grateful for what we had done.

Remarks.—Almost nothing is known of the etiology of these growths. They occupy usually the anterior third of the true cords, or the mucous membrane between or near the insertion of the cords into the thyroid cartilage. This would seem to indicate that the development of these growths is connected in some unexplained way with the function of this region. Laryngeal catarrh, excessive use and straining of the voice, syphilis and tuberculosis have been assigned as causative factors in this disease, but proof of this is lacking and we must rest content with the theory that wart-like growths are the local manifestation of a constitutional diathesis. I believe that the growth in Case 2 was congenital. The diagnosis of laryngeal growth is simple enough when a thorough laryngoscopic examination is possible; otherwise we must rely on absent or altered voice, difficulty in breathing, especially coming on during sleep when the patient assumes a position favorable for the growth to obstruct or to cover up the glottis. A small tumor, springing from the free edge of a vocal cord, produces aphonia earlier than a much larger growth in another portion of the larynx. The experienced ear will be materially assisted in making a diagnosis by the peculiar character of the voice and by the respiratory stenosis. Prognosis regarding life and recovery of the voice is largely influenced by the line of treatment adopted. When the patient is old enough to co-operate with the physician, so that endolaryngeal procedures for the removal of the growth are possible, life nearly always can be preserved, and the voice restored. Recurrence is to be anticipated whatever the operative measure in from 25 to 50 per cent. of the cases. When the age of the patient is such that an endolaryngeal operation can not be successfully performed there remains nothing but external laryngotomy, and this preferably after a preliminary tracheotomy. If the symptoms do not indicate danger to life, external operative measures are to be deferred, with the hope that in time endolaryngeal interference will be possible.

My experience with thyrotomy is entirely in accord with Gottstein, who says that this operation in the young child is very tedious and difficult of performance. The small size of the larynx precludes a good view of its interior and most of the instrumental manipulation in removing the growth is done in the dark, with much reliance on touch. The mortality among children, after laryngotomy, even in the hands of McKenzie and of other experienced laryngologists, is a high one when done for papilloma.

To Regulate Expert Testimony.—A bill has been introduced into the Massachusetts legislature for the regulation of expert testimony on the ground of expense to the state, of biased testimony, and of the unnecessary number of experts employed. The bill provides that expert witnesses shall not be paid amounts in excess of the ordinary witness fee unless the court awards a larger sum. The number of expert witnesses is also limited, except in special cases. Sporadic attempts have been made from time to time to improve the character of expert testimony, but hitherto without success. We are inclined, in general, to think that justice would be better subserved if the court had more choice in the selection of experts.—*Boston Medical and Surgical Journal.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, MARCH 18, 1905.

THE INTERNAL SECRETION OF THE TESTICLE.

Although the kidney and liver unquestionably secrete important products into the blood, we have no definite anatomic provision for separate internal and external secretion, as is the case with the pancreas. Here we find that the cells which produce the chief internal secretion of the organ are anatomically distinct from those secreting the digestive juice, being collected in groups between the tubules to form the islands of Langerhans. It is not so generally understood that the testicle is in this respect quite similar to the pancreas. The tubular structures of the testicle are obviously concerned in the manufacture of the spermatozoa, the external secretion. Between the tubules, in addition to the connective tissue framework and vessels, are small collections of cells whose comparatively abundant, finely granular cytoplasm distinguishes them from the stroma cells, and at the same time suggests the possibility of secretory function. These cells are not as definitely grouped as are the cells of the islands of Langerhans, and in the human testicle do not form so conspicuous a feature of the histologic picture, hence relatively little attention is generally given them. That they are extremely important structures is, however, very probable.

There are three evident functions of the testicle: First, the production of a substance or stimulus that influences certain phases of development, particularly those related to sexual characteristics; that the testicles alone produce this stimulant, if we may call it such provisionally, is amply proved by the results of castration in youth. Second, the manufacture of spermatozoa. Third, the production of some substance or stimulus essential to the production of the psychical manifestations of sexual activity. The first and third, although perhaps closely related, must be separated, as one is essentially developmental, whereas after development is complete anatomically, the other may be lost. By analogy with the pancreas, the possibility that it may be these "interstitial cells," or "interstitial glands," as they are variously called, is quite apparent, and Bouin and Ancel[1] have recently published a number of articles bearing on this problem. Their conclusion is that to the interstitial cells of the testicle are to be attributed all the effects on the body as a whole, that we ordinarily attribute to the testicle. The function of the cells of the seminiferous tubules seems to be limited to the production of the spermatozoa and the fluid in which they lie.

An important source of evidence was found in the testicles of cryptorchids, both of man and the lower animals, particularly swine. In such undescended testicles the usual finding is that the seminal cells are absent, whereas the interstitial gland cells remain, together with certain syncytial cells that lie at the base of the seminal cells. Such individuals develop normally, and are possessed of all the attributes of virility, except the possibility of procreation; indeed, it is stated by veterinarians that cryptorchid stallions seem to possess exceptionally violent sexual inclinations in some instances. On the other hand, if these undescended testicles are removed, sexual capacity and inclination disappear exactly as when normal testicles are removed. Evidently the functions of spermatogenesis and internal secretion are quite independent, as clinical evidence demonstrates frequently enough. In the case of pathologic occlusion of the vas in man, or of experimental occlusion in animals, we find conditions quite comparable to those of cryptorchidism, namely, disappearance of the seminal cells with retention of the interstitial glands. This last is similar to the usual result of occlusion of the pancreatic duct—atrophy of the tubular structures and preservation of the islands of Langerhans, the latter preventing the occurrence of diabetes. Occasionally, however, after occlusion of the pancreatic duct, the islands of Langerhans are involved in the resulting connective tissue overgrowth, diabetes resulting. So, too, with the testicle, the interstitial cells may be destroyed by inflammatory processes, or after experimental vasectomy if the nerves are injured these cells atrophy; in either case the sexual capacity is lost.

If in an animal with one undescended testicle the descended one is removed, as frequently happens in castrating swine, the development of the sexual characteristics, both anatomic and psychical, goes on as though no castration had been attempted. In such animals the undescended testicle was found to have undergone a compensatory hypertrophy of the cells of the interstitial glands, strongly supporting the idea that these cells also are essential for the development of the sexual characteristics, as well as for their maintenance after puberty. Some cryptorchids, however, do not develop, and in this class it was always found that the interstitial gland cells were scanty and of an atrophic type. In old age these cells were found to be much atrophied and pigmented. Embryologically, the interstitial glands appear very early, before the seminal cells, and are the first characteristic evidence of sex to be developed. The authors quoted are inclined to the belief that at this early stage these glands may determine by their secretion the development of sex, but the evidence in support of this theory is by no means convincing.

1. Jour. de Physiol. et. Path. gén., 1904, p. 1012.

REPORT OF TYPHOID FEVER BOARD—WAR WITH SPAIN.

A valuable addition to epidemiologic literature has just been made in the publication by the Surgeon General of the Army, under a special appropriation by Congress, of the full text of a report on the Origin and Spread of Typhoid Fever in U. S. Military Camps During the Spanish War of 1898. This report was the work of a board of three men whose attainments were commensurate with the magnitude of the task undertaken by them. Of these, by a singular fatality, two have since died. Walter Reed, major and surgeon, U. S. Army, has won the fame and the gratitude of humanity by his work on yellow fever. He died Nov. 23, 1902. Dr. Edward O. Shakespeare of Philadelphia, major and brigade surgeon, U. S. Vols., is well known to the scientific world by his contributions to medical science and especially by his report to the U. S. Government on epidemic cholera and his remarkable study of the typhoid epidemic at Plymouth, Pa. He died June 1, 1900, before the completion of the abstract of this report, which was published in that year. The surviving member of the board, Victor C. Vaughan, major and brigade surgeon, U. S. Vols., the distinguished teacher of hygiene and physiologic chemistry at the University of Michigan, has been charged with the publication of this report, a work which he has performed with characteristic zeal, thoroughness and discrimination. The first volume, of 712 folio pages, contains in minute detail the sanitary histories of the individual companies of 106 volunteer regiments, besides data relating to the occurrence of typhoid and malarial fevers in a number of regular regiments and detached organizations. Numerous diagrams showing the occurrence of typhoid fever by companies and tents are also included. Dr. Vaughan has added to this volume three valuable appendices showing the results of 700 analyses of drinking water, a report on the chemical disinfection of drinking water and a paper on typhoid bacilluria, these studies having been made at the hygienic laboratory of Michigan University. The second volume contains maps of the camps at Chicamauga Park, Ga., Camp Alger, Va., Camp Meade, Pa., and Camp Cuba Libre, Fla., together with 9 meteorologic charts and 84 morbidity charts of regiments. None but epidemiologists will have time to read the vast mass of observed facts and of medical testimony collected with infinite patience and industry by the board, but to these it will constitute an inexhaustible storehouse of information.

To the general practitioner and to military surgeons the general statements and conclusions of the board published in Chapter XIV will be most interesting and valuable. Space permits of the quotation of only a few of the most striking of these, as follows:

"More than 90 per cent. of the volunteer regiments developed typhoid fever within eight weeks after going into camp." "It became epidemic both in the small camps of not more than one regiment and in the larger ones, consisting of one or more corps, and in camps located in the northern as well as in the southern states."

"Typhoid fever is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body."

"Infected water was not an important factor in the spread of typhoid fever in the national encampments in 1898." "Flies undoubtedly served as carriers of infection." "It is more than likely that men transported infected material on their persons or in their clothing and thus disseminated the disease."

"Typhoid fever in regiments was characterized by a series of company epidemics." "In addition to the recognized cases of typhoid fever there were many short or abortive attacks of this disease which were generally diagnosed as some form of malarial fever."

"The belief that errors in diet with consequent gastric and intestinal catarrh induce typhoid fever, or that simple gastrointestinal disturbances predispose to it is not supported by these investigations."

"The percentage of deaths among 20,738 cases in 92 regiments was 7.61."

Most suggestive to military sanitarians is the statement in Appendix III that typhoid organisms are found in the urine of about one-fourth of all cases, and that, because of the frequency with which it is voided, its comparative inoffensiveness, its easy dissemination and the relatively great number of organisms present, infected urine is the most dangerous excretion of the typhoid patient. This work makes it evident that in camp life typhoid fever must be regarded and treated as a contagious as well as an infectious disease. One rises from an examination of this work with a sense of amazement at the industry, patience and skill with which so vast an aggregation of facts was amassed, collated and digested. It is to be regretted that the work of completing this report for publication was interrupted and that it was not given to the medical profession five years ago.

One practical result of the observations of this board was the devising by them of a system for the disposal of excreta in fixed camps by means of a trough filled with milk of lime and emptied by an odorless excavator. This has been officially adopted for army use by the War Department and is, as was recently stated by a prominent English military surgeon, the best system yet devised for camps.

TRUTH AND POETRY CONCERNING URIC ACID.

X.

Having considered the general physical and chemical properties of uric acid, we are now prepared to review the opinions bearing on the form in which uric acid and the urates exist in the urine on the one hand, and in the tissue juices and the blood on the other. More

than ordinary interest attaches to the conditions through which it is held in solution in the body, and a great deal of work has been done to determine the form in which it is precipitated in gouty deposits and in urinary sediments and concrements. Much study has been devoted to the factors which determine such precipitation and sedimentation.

In fresh, normal urine, the uric acid and urates are always in solution, but on standing a sediment tends to form. This may be either a red, sand-like crystalline powder, which collects on the bottom or on the sides of the container, or it may take the form of the well-known reddish-gray brick-dust deposit, the so-called *sedimentum latericium,* which makes the urine uniformly turbid but easily clears up on heating. If the brick-dust deposit be permitted to stand for some time, red crystals gradually separate out, the latter do not redissolve on warming, and, microscopically, they are seen to be crystals of free uric acid. The brick-dust deposit itself is now known to consist of amorphous mononatrium urate, whereas the crystalline deposit on the bottom and sides of the container may consist of crystallized mononatrium urate alone or of the same substance mixed with crystals of uric acid.

It has been shown that the formation of the sediment, though partly due to cooling, is generally caused by a chemical transformation in the urine; as the precipitate falls out the acidity of the urine is diminished.[1] This chemical change consists in a reaction between the mononatrium urate and the mononatrium phosphate present in the urine; as a result, neutral phosphate of soda and free uric acid are formed. The whole process can be imitated artificially, as Camerer has shown. This investigator mixed a saturated solution of mononatrium urate, which is alkaline to litmus, with a solution of mononatrium phosphate, which is acid to litmus; both fluids were kept at a temperature of 37° C. The reaction of the mixture was acid while it remained warm, but on cooling it turned alkaline and crystals of uric acid fell out of the solution. On warming the whole mass again, the uric acid redissolved and the alkalinity yielded to acidity.

The literature contains a vast number of researches dealing with the conditions of solubility of uric acid in the urine. Since uric acid is more soluble in an aqueous solution of urea than it is in water, Rüdel[2] maintained that in all probability a urate of urea is present in the urine. Roberts[3] believed that the uric acid excreted in the urine comes out of the kidneys as heminatrium urate (his quadriurate) and that this decomposes on standing into mononatrium urate and free uric acid. Pfeiffer[4] advanced the hypothesis that a double salt is formed between sodium urate and sodium phosphate and that the solubility in the urine is thus accounted for. These views of Rüdel, Roberts and Pfeiffer have not, however, stood the test of control experiments.

By far the best researches that deal with this phase of the subject are those of Zerner[5] and Ritter.[6] Zerner showed conclusively the dependence of the solubility of the uric acid and urates in the urine on their relations to the neutral phosphates present. It was he who first took up the systematic study of the influence of the phosphates on the solution of uric acid. All who have worked at the subject since have confirmed his main point, namely, that dinatrium phosphate is the most important solvent of the uric acid in the urine and possesses the power of hindering the decomposition of urates into free uric acid. While the natural tendency of mononatrium phosphate in the urine is to act by decomposing urates into uric acid, this salt is ineffective as long as a sufficient amount of dinatrium phosphate is present along with it. Ritter's work has confirmed that of Zerner and has done much to clear away all the other vague or conflicting theories. Our knowledge of the conditions of solubility of uric acid and urates in the urine may be considered as tolerably satisfactory.

The matter of our knowledge regarding the conditions of solubility in the blood and the tissue juices is quite different. The old idea of v. Wittich[7] that uric acid exists in the blood as dinatrium urate and that it is deposited in the tissues in gout on account of a decomposition in the latter due to their high holding in carbonic acid, the dinatrium urate being transformed into the much less soluble mononatrium urate, was accepted by Pawlinoff[8] (1875) and by other investigators for a long time after, but is now regarded as highly improbable. Nor have the views of Roberts, that the uric acid in the blood is present as heminatrium urate, or of Pfeiffer, that it exists as a double salt formed by the union of mononatrium urate with dinatrium phosphate, any more in their favor than have the similar views regarding the conditions of solubility of the uric acid in the urine.

A gleam of new light came with the suggestion of Minkowski[9] that possibly uric acid circulates in the blood, not in the form of a salt, but in loose union with some organic atom complex. He has shown ex-

1. Voit, C., u. Hofmann: Ueber das Zustandekommen der Harnsäuresedimente, Sitzber. d. k. bayer. Akad. d. Wissensch., I, 1867, p. 279.
2. Rüdel, G.: Zur Kenntniss der Lösungsbedingungen der Harnsäure im Harne, Arch. f. exper. Pathol. u. Pharmakol., xxx, 1892, p. 469.
3. Roberts, W.: On the Chemistry and Therapeutics of Uric Acid, Gravel and Gout, Croonian Lectures, London, 1892.
4. Pfeiffer, E.: Ueber Harnsäureverbindungen beim Menschen, Berl. klin. Wochft., xxxi, 1894, p. 913.
5. Zerner, T. J.: Ueber die chemischen Bedingungen für die Bildung von Harnsäuresedimenten, Wiener klin. Wochft., vi, 1893, p. 272.
6. Ritter, A.: Ueber die Bedingungen für die Entstehung der Harnsäuresedimente; ein Beitrag zur Theorie der Gicht., Ztschr. f. Biol., xxxv, 1897, p. 155.
7. v. Wittich: Ueber Harnsekretion und Albuminurie, Virch. Arch., x, 1856, p. 325.
8. Pawlinoff: Die Bildungsstätte der Harnsäure im Organismus, Virch. Arch., lxii, 1875, p. 57.
9. Minkowski, O.: Ernährungstherapie bei harnsäurer Diathese, Gicht, Arthritis deformans, Oxalurie, und Phosphaturie, Leyden's Handbuch der Ernährungstherapie, ii, p. 499.

perimentally that if an alkaline solution of chemically pure nucleinic acid be mixed with a solution of urate of soda, the addition of acetic acid no longer causes a precipitate of uric acid, nor can the uric acid be precipitated with the ordinary silver-magnesia mixture. Goto[10] in 1900 came to similar conclusions independently, and showed that thymin acid forms compounds with uric acid which behave entirely differently from ordinary uric acid or urates and which escape detection by our ordinary methods of qualitative or quantitative estimation. It is not impossible, therefore, that the uric acid in the blood may be combined in some such way. If so, far greater amounts of it may be present in the blood and body juices than we have hitherto thought probable, for if it exists under some such conditions as those mentioned, it must have escaped detection.

THE ABUSE OF PROPRIETARY MEDICINES.

Two weeks ago we pointed out that the principal functions of the Council on Pharmacy and Chemistry will consist in passing on the ethical merits of proprietary remedies from the pharmaceutical and chemical point of view. The next step lies with the medical profession. It is the duty of every physician to realize this and to assist in reducing the indiscriminate employment of products that are at all secret in their composition; for their present enormous use is a reflection on the acumen and the common sense of the profession as a whole. The reason there is so much of this prescribing of proprietary remedies, the vast majority of which are secret, is not hard to discover.

First, there is an ever-increasing tendency to abandon the old and tried preparations. There seems to be an inherent tendency in all things to assume that the new is necessarily superior to the old. This assumption is not logical, especially when it is remembered that we are now considering proprietary preparations. There can be no question that the new, if promising, deserves an honest investigation, but what proportion of proprietary remedies have undergone such an investigation? The difficulty is that therapeutic tests are difficult and indecisive. We are rarely certain of what the outcome would have been had the drug been omitted; and it is rare that the drug to be investigated is the only item in treatment. To some extent, errors may be counterbalanced in a large number of observations, especially when made by careful, unprejudiced and independent observers, and an acute and practical observer may be justified in drawing conclusions from a limited number of observations, with a fair degree of probability. But we should be suspicious of the "tests" made by, and the endorsements of, those who have never been heard of in any other connection.

Again, no one advertises drugs that are recognized as official and in which no individual or firm has any direct financial interest. On the other hand, the manufacturers of proprietary preparations employ the best advertising talent that can be obtained. The burden of the blame is not on the advertisers, however, or on the publications which accept their advertisements, but on the physicians, who place absolute dependence on the say-so of some one who has something to sell. The manufacturer does his best to convince the physician that it is to his (the physician's) interest to use his products, and so long as he does this within the bounds of honesty and truthfulness he can not be criticised.

Many, however, prescribe these convenient mixtures because they lack confidence in their therapeutic knowledge, or in their ability to build the desired ingredients into a prescription *secundum artem*. It seems to us that this increasing ignorance of therapeutics and of prescription writing should bear a large part of the blame for the abuses of which we complain. It is pretty near the root of the whole matter; and in its eradication lies a cure. One of the causes of this ignorance is the fact that therapeutics and prescription writing are neglected in our medical colleges, and some of the highest grade colleges are the most to blame in this particular. In fact, we do not hesitate to say that if the medical colleges would do their duty in this regard, and would teach their students not only what to do but what not to do, there would soon be an end to secret nostrum prescribing.

The remedy for the evil which we are considering, as for all other evils from which we as a profession are suffering, lies with us. If we want the evil continued, it certainly will continue, and if we stand ready to prescribe indiscriminately all preparations offered, we can not blame those who so willingly supply us with them.

HAWAIIAN FEVER.

Some years ago, it is said, a Japanese physician practicing in Honolulu issued a death certificate giving "Hawaiian fever" as the cause of death, and insisted that, while the disease had been confounded with malaria, it was something new to him, and not, so far as he knew, differentiated in the literature of medicine. The certificate was accepted, and since then the term Hawaiian fever has been more or less employed. At a recent meeting of the Hawaiian Medical Association, Dr. A. N. Sinclair read a paper on the subject, claiming that the symptoms and the course of the disease were different from those of malaria. He said that he had been unable to find the plasmodium of malaria in any case excepting one imported case of malaria, and, furthermore, the essential condition of the disease, the anopheles, did not exist in the islands. If we have a new species of disease peculiar to the Hawaiian Islands, and which is sometimes fatal, it is a matter worthy of investigation. Any new addition to the list of tropical diseases in our new possessions is an interesting if not altogether a welcome fact.

10. Goto, M.: Ueber die Lösung der Harnsäure durch Nukleinsäure und Thyminsäure, Ztschr. f. physiol. Chem., xxx, 1900, p. 473.

THE GRIP OF QUACKERY ON THE NEWSPAPERS.

When financial reasons are the basis of action in spite of the right or the wrong of the matter, it is customary for those involved to make some excuse to veil the motives, and not to speak so plainly as to reveal the real animus. The following quotation from a telegram to the Chicago *Tribune* is certainly frank: "The press association resolved to take action to kill bills in the legislature [Wis.] that aim to give medical examiners the power to revoke the licenses of physicians who advertise and to require patent medicine companies to publish their formulæ on the bottles. The latter bill, it is asserted, will deprive publishers of the state of $500,000. Other bills, limiting county printing, cost, etc., will be fought." We are glad that the *Tribune* is not so controlled by commercial interests as to prevent its stating news in plain terms.

THE MISSOURI DECISION AGAINST THE OSTEOPATHS.

We publish this week the Missouri decision against osteopathy. As the decision covers many points of direct interest to physicians, we believe it is unnecessary to apologize for publishing the entire text. It is full of information, not only as it relates to the osteopaths, but as it affects physicians in other ways. Especially is the subject of the right of a witness of one school of medicine to give evidence in a case against another school covered as it has never been covered before, so far as we know. The anomalous position that osteopathy occupies is well shown up in the decision. The osteopaths are practitioners of medicine, and they are not; it all depends on their point of view. The decision, further, is of value because it contains references to decisions that affect not only the various points brought up in this particular case, but those that bear on evidence in malpractice suits, etc.

CLASS PUBLICATIONS.

The newspaper and periodical directories contain a list of what are called class publications; that is, periodicals that are published in the interest of a certain class. These journals are supposed to stand for, to represent, a particular trade, calling or profession. The functions of such journals are to represent and to uphold the interests of the classes for which they stand and to publish such matter as is of direct interest to their readers. Medical journals are class publications and as such are supposed to represent the interests of medical men. It is presumed that their reading pages will contain articles that will be helpful to physicians; that will enlighten them on subjects in which they are interested, and that will keep them informed on all matters that they should know. Their reading pages are not supposed to be bartered to those belonging to another class or to represent the interests of another class as against those they are supposed to represent. Evidently, some journals that are listed under "medical" are in the wrong list; probably the names of such journals misled those who compiled the list, and so they were wrongly classified.

A NEW WESTERN PERIL.

Some years ago we called attention to the fact that, according to certain statistics, Colorado was losing its male faster than its female population, and bid fair, if the conditions continued, to become in time an Adamless Eden. We have not heard from the subject further, and presume that the threatened outcome is still a long way off. Now, however, comes another report, this time from Carson City, Nevada, which points the same way, only that it indicates not an increased mortality, but a striking deficiency in the birth rate of males. It is said that in that community in the year 1904, out of the total of fifty-seven births, only one was a boy, and that that baby arrived just in time to prevent the record from being totally a female one. There is something wrong in the mountain regions apparently, if we are to accept such data as these. We know that statistics are sometimes included as an aggravated type in the classification of lies, but this Carson City record is alleged as merely an unmanipulated fact. What it is in that region that should produce such a result it is hard to say, unless it is some relic of the influence of the teachings of Brigham Young. If that sort of thing is to be continued, polygamy or emigration will be almost the only resources of the Nevada spinsters. Perhaps we shall hear from Utah next.

THE REAL PRESCRIBER.

The present status of proprietary medicines, their widespread use and their liberal endorsement by so many medical practitioners is a matter that is so evidently inconsistent with all rational ideas of science and progress that, were it not for the ultimate object, the preservation of human life, the whole subject would, as it surely will in the future, appear most ludicrous and absurd. Few of us, probably, have considered how unreasonable and irrational it would be for a surgeon to follow the advice and direction of an instrument maker, as to when and how one should operate on a given patient, or how preposterous it would be for a lens grinder, or even the glass manufacturer, to dictate to an efficient oculist how to modify his prescriptions for lenses so that a single prescription would fit all eyes. Nevertheless, many physicians will listen willingly to the exaggerated and unwarranted claims regarding a secret nostrum, despite the fact that the people who are making and exploiting the preparations may be ignorant of even the fundamental principles on which the practice of medicine is based. Is it, for instance, not unreasonable to suppose that individuals who are totally devoid of a practical knowledge of pathology, physiology or even anatomy should, by some fortuitous and unknown chain of circumstances, be placed in a position to dictate to medical men how they should treat their patients, regardless of individual idiosyncrasies or possible complications?

IGNORANCE ON YELLOW FEVER.

The irresponsible writing that is being done by certain wiseacres of the lay press who fancy that they know all about not only politics but history and histology, art and astronomy, money and metaphysics, to

say nothing of philosophy and physic, is exemplified by a recent article by Richard Weightman for a syndicate of papers with which he is identified. In the course of one rather remarkable ebullition, in which Mr. Weightman assumes to set at rest once and for all every heretofore moot question connected with the pathology, symptoms and treatment of yellow fever, he says: "You will observe, however, that every recent report from Panama makes haste to explain how, as soon as yellow fever broke out there, the doctors at once got busy with the old expedients of sanitation—the dustpan, the shovel, the garbage cart, the carbolic-acid sprinkler and all the rest of it. You don't hear a word about mosquito nets, etc., after yellow jack bulges in on the stage. Science immediately reverts to the ancient remedies, specifics, antidotes, and so on." Of course, all this is arrant nonsense and ought to be known as such by every man who assumes to write for public enlightenment. In the light of such reports as that of Dr. Reed, in our last week's issue—not the garbled version of it that appeared in the daily press—and in the light of every other authentic report that comes from Panama, the declaration of Mr. Weightman, just quoted, can be set down as nothing but a deliberate misrepresentation perpetrated for the purpose of misrepresentation. He ought to know that the successful sanitation of Havana was accomplished and is maintained by the practical application of the mosquito theory, just as he should know that every bit of effective sanitation that was adopted before the advent of the mosquito theory was effective because of its empirical application of the facts which have since found their place in that theory. Mr. Weightman in another of his letters sneered at the work that is being done by the Carnegie Institute, and referred sarcastically to practically everything connected with it; it was full of misrepresentations and insinuations. Evidently he has little respect for science, sensation being more to his liking. It might be well for his employers to insist that he tell the truth in his correspondence. In this case the newspapers for which he writes would be more respected.

CONGRESS AND THE ARMY MEDICAL BILL.

The bill to increase the efficiency of the Medical Department of the Army is another that failed to become a law at the session of Congress just closed. The bill, the passage of which the American Medical Association, through its committee on National Legislation, earnestly urged, passed the Senate and was favorably reported (in a somewhat mutilated condition) by the Military Committee of the House. In view of the President's message urging its passage and its strong endorsement by the War Department, it would undoubtedly have become a law if it had been permitted to come to a vote in the House. At the final stage, however, a fatal obstacle was encountered in the refusal of the speaker, Mr. Cannon, to permit the measure to come to a vote. In this refusal he persisted in spite of the personal solicitation of the Secretary of War and the formal declaration of the President that "if the Medical Department is left as it is, no amount of wisdom or efficiency in its administration will prevent a complete breakdown in the event of a serious war." The speaker's obstructive position is understood to be due not to any disapproval of the provisions of the bill, but to be simply due to his determination to head off new legislation during this session. Thus the responsibility rests with Mr. Cannon alone of continuing for another year a condition which is full of possibilities of useless waste of life and loss of military efficiency, which is discreditable to the nation. It is the more serious because Congress can not by the passage of any law at once remedy past neglects. Efficiency in the Medical Department, as in other parts of the Army, is a matter of training and military experience, and requires both time and hard work. It can not be improvised. The lesson which we can learn from brave little Japan is no secret of rice diets or of new sanitary devices, but of careful, patient preparation for war, both as regards personnel and material, of working out every detail, of leaving nothing to chance. It is the lesson inculcated by George Washington—the lesson which we have never learned—"In time of peace prepare for war." As a nation we prefer, certainly in medico-military matters, improvisation to preparation, chance to prevision, and in the ever-increasingly complex and technical art of war, the tyro to the expert. And so Mr. Cannon is only exemplifying a national characteristic when he turns a deaf ear to the President, to the War Department and to the medical profession, and lightly puts aside for another year this important contribution to the efficiency of our Army.

THE VARIED FUNCTIONS POSSIBLE IN THE COUNTY MEDICAL SOCIETY.

The tendency of the age seems well-nigh worldwide for isolated groups of the community—trades, professions, etc.—to adopt for the common good of their membership certain methods of communal activity. The unanimity with which the medical profession seized the opportunity to reorganize on a basis effective for the general good of physicians and the commonwealth is an illustration in point. It is fortunate that the adopted mode of organization affords through the autonomy of the county society so full opportunity for varied experiments in medical socialism. Some societies are doing little or nothing in this direction; others are taking very advanced ground and are working out some theoretical and practical problems of exceedingly great interest. Recently in these columns we drew attention to the Cleveland Academy of Medicine and its very effective work along certain lines. We have since received the announcement of the Defense League of the Wayne County Medical Society, created as a branch to supply needed defense for the Detroit profession against unjust suits for damages and blackmail. The plan seems an excellent one and ought to work well save for one thing. An annual fee is required, separate from the society dues, and members of the society who do not wish to join the league need not do so. This plan, in some places, might prevent a membership large enough to secure ample funds for convenient operation. Aside from this reason, however, the plan is

a departure from the organization system and the co-operation feature is lacking. What is for the good of one is for the good of all and all should contribute alike, for the reputation of the work of the league will itself ward off suits. The Chicago Medical Society has for some time conducted a medicolegal department, which is found of great value in defending members in such suits. And, by the way, no organization has been more enterprising in the various activities possible to the county medical society than has the Chicago Medical Society. Its latest proposal—a "business bureau"—is particularly noteworthy, though not yet adopted. The objects of such a bureau would be the collection of accounts for members, the assumption of complete care of the books of a disabled, absent, or deceased member, and in general the execution of various matters of business for the members and for the society as a whole. So far as known, such an experiment has not been put to the test, and all workers in organization will be interested in the outcome if the plan is adopted.

Medical News.

CALIFORNIA.

State Sanatorium.—A bill has passed the legislature, carrying an appropriation of $150,000, for the erection of a state sanatorium for the treatment of poor patients suffering from tuberculosis.

Governor Favors Vaccination.—Governor Pardee, on March 8, sent a message to the senate vetoing the bill to prevent vaccination being made a compulsory condition for admission to the public schools. The senate refused to pass the bill over the veto by a vote of 23 to 3.

ILLINOIS.

Bequest.—By the will of the late Daniel Kerns, Quincy, St. Mary's Hospital in that city receives a bequest of $1,000.

Diphtheria Prevails.—Libertyville schools have been closed because of the prevalence of diphtheria. At least 10 cases have been reported and two deaths have occurred.

Eye and Ear Society.—At a meeting held in Danville, March 7, the Eastern Illinois Ophthalmological and Otological Society was organized with the following officers: President, Dr. Cassius M. Craig, Champaign; secretary, Dr. Charles P. Hoffman, Danville, and committee on fee-bill, Drs. Irvin E. Huston and Elbert E. Clark, Danville.

Personal.—Dr. James A. Egan, secretary of the State Board of Health, has been awarded a gold medal for his work in connection with the exhibit of the board at the Louisiana Purchase Exposition.——Dr. William R. Patton, local surgeon of the Clover Leaf System at Charleston, has resigned.——Dr. William C. Dixon, Canton, has been reappointed physician of Fulton County.——Dr. George G. Craig, Rock Island, has announced his candidacy for mayor of the city.

Legislative Progress.—Senate Bill No. 169, which provides for the appointment of an osteopath on the State Board of Health, and decreases the membership of the regular school, and Senate Bill No. 292 (committee substitute for Senate Bill No. 171), which attempts to regulate medical and osteopathic practice and stipulates that physician's certificates shall be issued to certain osteopaths without examination, are ordered for second reading. Both bills are being opposed by the State Board of Health.——The Epileptic Colony bills (House bills Nos. 211 and 353 and Senate Bill No. 268) were considered by the appropriate committees last week. The result is conjectural. The bill to regulate the practice of "Optometry," facetiously referred to by the legislators as the "window-glass bill," seems to be defunct.

Chicago.

Smallpox Rampant.—During the week ended March 11, 31 cases of smallpox were reported to the Department of Health, and 9 patients died at the Isolation Hospital.

The Week's Deaths.—Of the 627 deaths reported during the week ended March 11, 138 were due to pneumonia; 82 to tuberculosis; 45 to heart diseases; 38 to nephritis; 33 to violence, and 30 to bronchitis. The mortality rate was 16.41 per 1,000 per annum, the same as for the previous week.

February Mortality.—The deaths from all causes in February were 2,421, 66 less than in January, and 284 less than in February of 1904. This is equivalent to an annual death rate of 15.86 per 1,000. The death causes are headed by pneumonia, with 522 deaths; consumption caused 285 deaths, heart diseases 158, bronchitis 154, nephritis 133, violence 114, nervous diseases 106, and influenza 41. Diphtheria caused 32 deaths, whooping cough 30, smallpox 11, measles 15, and scarlet fever 7.

Measles Not Mild.—In the first 70 days of the year 43 deaths from measles were reported. During the whole of 1904 only 47 such deaths were reported. These figures, says the Department of Health, acquire a very serious importance when it is considered that only a relatively small proportion of the deaths from measles are reported as such—the immediate cause of death, such as bronchopneumonia, capillary bronchitis, lobar pneumonia or similar grave affections developed during an attack of measles, being given as the actual cause.

INDIAN TERRITORY.

Personal.—Dr. T. C. Brannum, Pauls Valley, has been appointed secretary of medical examiners for the southern district, vice Dr. E. E. Chivvers, Mannsville, resigned.

"Quaker Doctor" Fined.—On Dec. 21, 1904, E. F. Baldwin, a self-styled "Quaker Doctor," was tried at Ryan on the charge of practicing medicine without a license, was convicted and sentenced to pay a fine of $150 and costs. He also lanquished in jail five days. The medical men who appeared against the man, traveled 60 miles or more to get to the trial.

IOWA.

Burglarized.—The offices of Drs. John B. Findlay and Chas. D. Rawson were recently entered by burglars, who escaped with surgical instruments and appliances valued at $600.

Mercy Hospital Dedicated.—St. Joseph's Mercy Hospital, Dubuque, erected at a cost of more than a quarter of a million of dollars, was dedicated with imposing ceremonies, February 5, by Archbishop Keane.

Middleton Bust Dedicated.—A bust of the late Dr. William D. Middleton, Davenport, professor of surgery and dean of the medical department of the State University, Iowa City, was formally dedicated in the new medical building of the university, February 28.

KENTUCKY.

Fined.—Four physicians of Lexington were fined $10 and costs each for failure to pay the municipal license fee of $10 required by the city ordinance.

Personal.—Dr. William Keeney, Jr., Paris, coroner of Bourbon County, slipped on an icy pavement and fell, breaking two ribs.——Dr. W. Johnston Bars has been appointed city physician of Paducah, vice Dr. Robert Rivers, resigned.

The Fight Against Smallpox.—The State Board of Health, which suspended the quarantine against Trigg County until March 4, has extended the period during which the people of the county may be revaccinated or vaccinated, for ten days. Vaccinations are being made, and the smallpox situation is rapidly improving.——Warren County put in effect a strict quarantine against Simpson County, where smallpox is prevalent, but the quarantine was raised March 2, as the people of the county had complied with the general vaccination order.

MARYLAND.

Personal.—Dr. Timothy Conroy, Mount Savage, was severely injured and may lose his sight from an explosion of a vial containing nitroglycerin, which came in contact with some nitric acid, and which he was employing in an operation.——Dr. William H. Noble, late of Philadelphia, was elected on March 9 physician-in-charge of the Western Maryland Hospital, Cumberland.

Frederick Hospitals.—On March 7 the Hood wing of the Frederick City Hospital was opened with exercises and a public reception. The wing is a gift from Mrs. Margaret S. Hood, and was constructed at a cost of about $10,000. It doubles the capacity of the institution (with its 49 patients), and includes a sun parlor and elevator. The new rooms have been furnished

by patrons and friends of the institution. About $25,000 has been raised through the efforts of about 30 women, and there are 5 absolutely free beds. An ambulance was recently presented to the hospital by a New York physician. The hospital is supported and patronized by 27 local physicians.——The annual report of the Emergency Hospital of Frederick County shows that 232 cases were treated during 1904. Of these, 126 involved operation, with one death. The total receipts (including $1,200 received from the state), were $16,475. This institution was organized by and is under the management of the County Medical Society, and consists of a large three-story building and lot. It has two public wards, two private wards, seven private rooms, and an operating room. The medical staff consists of Drs. Henry P. Fahrney, Samuel T. Haffner, William C. Johnson, Wilson A. Long, Ira J. McCurdy and Franklin B. Smith. The wards of this hospital are open to the poor free.

Baltimore.

Personal.—Dr. Wirt A. Duvall has been appointed assistant surgeon of the Fourth Maryland Infantry.——Dr. William A. Moale is at Palm Beach, Fla.

Medical Officer for Students.—There are 291 medical students in Johns Hopkins Medical School, 56 of whom are from Maryland. The trustees of the University have authorized the appointment of an official medical adviser to the students of the medical department. For the present academic year Dr. Rufus I. Cole, resident physician to the hospital and associate in medicine in the university, holds this position. The University Circular says of this office: "This officer is to have a definite hour for consultation with medical students, is to be prepared to visit in their own homes, when called on, such students as are unable to meet him at his consultation hours, and to obtain, when necessary, the services of specialists for special examination and treatment. This medical service is to be without cost to the students, the salary of the adviser being paid by the medical department of the university."

MASSACHUSETTS.

Bequests.—William H. Williams of Boston left $5,000 to the Hyde Park Hospital for Crippled Children, and the same amount to the Boston Home for Incurables.——Mrs. Andrew G. Weeks has given $5,000 to the Nursery for Blind Babies.

Special Legislation for Osteopaths.—The Massachusetts Committee on Public Health has given the osteopaths "leave to withdraw" on the petition recently presented by them for special legislation, noted in a recent issue of THE JOURNAL.

Militia Changes.—Dr. David Cheever, Boston, has been appointed major and surgeon to the First Cadets, vice Dr. Charles Green, resigned, and retired as lieutenant colonel.——Dr. Horace Binney has been commissioned first lieutenant and assistant surgeon, vice Cheever, promoted.

Infants' Hospital Report.—The Thomas Morgan Rotch, Jr., Hospital for Infants cared for 11,637 infants as out-patients last year, 2,540 being new cases, and 297 infants in the wards. The expenses are largely met by a fair, which is held this year at the Hotel Vendome, March 24 and 25.

Harvard's New Buildings Well Under Way.—The external walls of the laboratories of the New Harvard Medical School are practically completed, and with the return of warmer weather work has been resumed on the administration building. The group of white marble buildings is most impressive. It will require at least another year, however, to complete the interior furnishings.

Would Abolish Drink Hospital.—There is a strong movement to abolish the Massachusetts Hospital for Dipsomaniacs at Foxboro. There are two propositions for the use of the buildings. One would give them to the Massachusetts Board of Charity to be used as a Home for Crippled and Deformed Children. The other would give them to the State Board of Insanity, together with $100,000 for constructing and furnishing new buildings, in order to meet the demand for 300 to 500 new beds made each year on this board.

Opposition to Pesthouse Location Bill.—Pressure on the Committee of Public Health of the Massachusetts Legislature to secure the passage of a bill forbidding the location of a small-pox hospital, pesthouse, or contagious hospital within 100 rods of any boulevard or parkway, has met so much opposition on the part of Boston and various other cities and towns which would be obliged to give up their present quarters and secure new ones at a large expense, that the committee is at a loss to decide and has asked the advice of the State Board of Health on the matter.

Elimination of Tuberculosis.—Statistics recently published by the Boston Board of Health shows that tuberculosis is being rapidly eliminated. Fifty years ago the annual death-rate per 10,000 population was 49. Last year it was less than 21. Ten years ago the disease was more fatal in Boston than it was in Philadelphia, New York, Chicago, Brooklyn, St. Louis, London, Berlin, Glasgow and Liverpool. Already the condition is better than in Philadelphia and New York. Great improvements have been made in many of the wards of the city, and a net average decrease as indicated, the shifting of population being partly responsible. This is specially true where the negroes and Irish have been replaced by Jews and Italians. With an average yearly mortality of 11.33 per cent. of the total mortality Boston furnishes only 40 free beds.

Oppose Antivivisection Bill.—Petitions for an antivivisection bill before the Massachusetts Committee on Probate and Chancery this year made the unique plea that such a bill was favored by ex-Governors Claflin and Boutwell, who have recently died, and would be a graceful compliment to their memories. The bill was opposed by Drs. Harold Ernst and Edward H. Nichols of Harvard Medical School; Dr. Horace Packard of Boston University Medical School; Dr. Henry P. Walcott, chairman of the State Board of Health, for Harvard College and the Massachusetts General Hospital; Dr. Arthur T. Cabot, for the Massachusetts Medical Society; Drs. Samuel H. Durgin and Hibbert W. Hill, for Boston Board of Health; Dr. A. E. Austin for Tufts Medical School; Dr. Langdon Frothingham, for veterinaries; Dr. David W. Cheever, for the medical profession; Prof. A. W. Wise, for Boston University; Prof. Mary Wilcox for Wellesley College, and Dr. Theobald Smith.

MINNESOTA.

Internes and Alumni Organize.—The Internes and Alumni Association of the Minneapolis City Hospital was organized recently. Dr. Hugh S. Wilson was elected president and Dr. James Ballard secretary and treasurer.

Mothers and Babes Endangered.—A fire in the Maternity Hospital, Minneapolis, early in the morning of February 26, endangered the lives of 14 mothers, their infants and the nurses. By quick work all were removed without casualty. The damage to the building will be about $1,500.

Membranous Croup, Not Diphtheria.—On the ground that membranous croup and not diphtheria was the cause of death of a child, Dr. Marius J. Jenson, Minneapolis, was declared not guilty of the charge of criminal negligence in failing to report a case of diphtheria to the Health Department.

Personal.—Dr. Ole E. Linjer, assistant city physician of Minneapolis, has resigned. Dr. Hugh Wilson succeeds him. Dr. Linjer was immediately appointed a member of the State Board of Medical Examiners, vice Dr. Charles M. Cannon, St. Paul.——Dr. Phillip Mueller, Minneapolis, was held up and robbed of $50 recently.——Dr. William H. Rumpf, Faribault, has gone to the Bahamas for the remainder of the winter.——Dr. Samuel Musgrave, Jr., has resigned as assistant city physician of Minneapolis.——Dr. Arthur B. Ancker, St. Paul, has been unanimously re-elected city physician and physician of Ramsey County for four years.

MISSOURI.

Exonerated.—Dr. Walter C. G. Kirchner, superintendent of the Emergency Hospital, St. Louis, who was held responsible for the death of an insane patient, was exonerated at a special meeting of the Board of Health called February 28.

Verdict for Defendants.—In the case of William Ritenger, Greenwood, against Drs. Leander W. Cape, Maplewood, and R. Brent Murphy, Ellendale, in which he claimed $10,000 damages for the loss of an arm, the jury returned a verdict for the defendants.

Personal.—Dr. James C. Nunn, Bowling Green, has been appointed a member of the Asylum Board for the Hospital for the Insane, No. 1, Fulton.——Dr. Gustav C. Eggers, Clayton, has been reappointed physician of St. Louis County.——Dr. Larkin H. Calloway, Nevada, has been appointed superintendent of Hospital for the Insane, No. 3, Nevada, vice Dr. Joseph F. Robinson, removed.

NEW YORK.

Syracuse Has Scarlet Fever.—There are now nearly two hundred cases of scarlet fever in Syracuse, and 145 houses are under quarantine.

Bequest.—By the will of Father Thomas Plunkett, Ogdensburg City Hospital receives $1,000, and one-half of the residue of his estate after certain legacies have been paid.

Fire in Hospital.—A fire occurred in St. Joachim's Hospital at Watertown, March 6. A dozen patients were rescued from the burning building with difficulty. The damage was about $5,000.

Illegal Practitioner Imprisoned.—"Dr." Isaac A. Finch, Buffalo, who was recently found guilty of practicing without a license, was sentenced on March 1 to imprisonment for three months in the Erie County Penitentiary.

Members of State and American Medical Association.—There are at present 1,683 members of the New York State Medical Association, of this number 1,121, or more than 66 per cent., are members of the American Medical Association.

State Will Pay for Cattle Killed.—A bill has been passed by the assembly providing for payment for cattle killed to prevent the spread of tuberculosis. In case of localized tuberculosis the state will pay 60 per cent. of the appraised value of the cattle, and in general contagion 40 per cent.

Fire at State Hospital.—A fire occurred at the Buffalo State Hospital for the Insane. By virtue of the training obtained by a fire drill every day all the patients in the wing in which the fire was discovered, numbering 170, were aroused from their sleep and marshalled into another building in a few minutes.

Personal.—Drs. Edward J. Meyer and Henry C. Buswell, Buffalo, have returned from Europe.——Dr. J. Henry Dowd, Buffalo, has been elected secretary of the medical staff of Mercy Hospital.——Dr. Martin Bessemer, Ithaca, has been appointed a member of the State Board of Medical Examiners, vice Dr. William M. L. Fiske, Brooklyn, deceased.——Dr. Parson G. Udell, Spencerport, was thrown from his sleigh, March 4, and sprained his ankle.

For Purer Milk.—The Five States Milk Producers' Association, whose members furnish most of the milk for the markets of New York, met in Binghamton, March 7, to consider ways and means for getting a purer milk supply for New York City. They claim that the middlemen remove from 3 to 5 per cent. of the butter fat and then adulterate the milk and sell it at a higher price than is warranted by that paid to the farmers. They have sent a committee to the assembly to work in favor of the Fish bill, which aims to prevent adulteration of milk.

Finance Committee Visitation.—The finance committee of the state legislature visited Buffalo for the purpose of making a personal inquiry into the needs of appropriations which have been asked for by several of the state institutions in that city. The State Cancer Laboratory has again asked the state for an appropriation of $15,000 to carry on the research work on cancer. Thus far the state has spent $100,000 on this institution. The committee also visited the four new buildings of the Buffalo State Hospital which are under process of erection; a new home for the superintendent, a new home for the medical staff, a nurses' home, and an amusement hall. The total cost of these buildings is about $100,000.

Vital Statistics for January.—The total number of deaths in this state for January was 11,875, or an annual rate of 18.5 per 1,000, according to the bulletin of the State Department of Health. There were about 400 more deaths than in December, and there was the same increase over the average mortality of the month. Pneumonia caused 1,800 deaths, consumption, 1,166, and Bright's disease, 780. Cerebrospinal meningitis caused 150 deaths, which is a larger mortality than any since last June. Diphtheria caused 250 deaths, which was less than the average. There seemed to be more influenza in the rural than in urban municipalities. There has been no death from smallpox in the state since last October.

New York City.

Will Equip Wards.—Dr. William F. Campbell has volunteered to provide complete furnishing for the operating and sterilizing wards of the Swedish Hospital, Brooklyn, in memory of his mother.

The Donor Known.—The director of the Manhattan Eye, Ear and Throat Hospital, who it was announced last week had given $25,000 toward the building fund, was Mr. Frank Tilford. His donation was for the construction of a building for an otologic clinic.

Infectious Disease Inquiry.—The board of aldermen has appropriated the $35,000 asked for by the commissioner of the health department in order to make a census and inspection of the congested districts so as to aid in decreasing infectious diseases in the tenements.

Condensed Milk Adulteration.—Evidence has beeen collected and sent to the state health department that large quantities of condensed milk, impure and below the standard, are being sold in New York City. It is said that the attorney general will immediately prosecute a number of big jobbers and dealers.

Smallpox Among Strike-Breakers.—Three cases of smallpox were discovered among the strike-breakers herded on the *Northam* in the East River. Some of the men from the infected vessel have been quartered in barns in 129th Street and Second Avenue. A case of scarlet fever was also reported among strike-breakers in Marion Hall, where 70 men were quartered.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 4, 390 cases of tuberculosis, with 188 deaths; 276 cases of diphtheria, with 30 deaths; 248 cases of scarlet fever, with 22 deaths; 252 cases of measles, with 6 deaths; 42 cases of typhoid, with 10 deaths; 98 cases of chicken-pox, 3 cases of smallpox, and 60 deaths from cerebrospinal meningitis.

Ground Broken for New Hospital.—Ground has been broken for the new Manhattan Eye, Ear and Throat Hospital in 64th Street. According to the amended plans the hospital will cost between $450,000 and $500,000, including the equipment. An unusual feature will be the sun galleries. This is believed to be a great step in advance in hospital construction. The building itself will be six stories high, and in order to obtain space for the hospital equipment the architects have planned a basement of five different levels below the first floor.

Water Supply Assured.—An agreement regarding water supply has been entered into between representatives of the city and representatives of the objecting Hudson River counties. Westchester County is to be permitted to tap the Croton aqueduct to get a supply for villages and cities along its route. An arrangement has been made with Putman County and with Dutchess County by which creeks will be let alone in these counties so far as manufacturing interests are concerned. New York may go into Ulster County, provided property owners get compensatory damages.

Conrad's Conviction Affirmed.—The Appellate Division of the Supreme Court has affirmed the conviction of Edward E. Conrad on the charge of attempting to commit abortion. The county medical society was instrumental in securing his arrest and trial. He was sentenced to serve not less than one or more than two years in state prison. The appeal was made on the ground that he was lured into the trap that resulted in his arrest, but according to the appellate division these contentions are demolished, and it is held that he was properly convicted.

Death Rate Lower.—The health commissioner reports that last week's death rate was equivalent to an annual rate of 20.47 per 1,000, while the rate for the corresponding week last year was 24.35. In 1903 the figures for the corresponding week were 20.67. There have been fewer deaths from all causes over the same week last year, excepting cerebrospinal meningitis. Deaths from this cause became sufficiently numerous in March of 1904 to attract attention, while in April and May a remarkable increase was observed. The record for the past year from cerebrospinal meningitis was 1,211, or more than two-thirds of the total for the entire state. Dr. Darlington has been empowered to ask that a small sum be appropriated for the investigation of cerebrospinal meningitis. It is thought that the detailing of a government physician to help in the work will be a good thing. Personally Dr. Darlington favors fumigation after cases of this disease, but he wishes the opinion of a commission of leading physicians.

NORTH DAKOTA.

Anatomy Act.—A third bill passed by the State Legislature is an act to promote anatomic knowledge and to provide for anatomic material for such purposes, similar to those which obtain in other states.

State Hospital Overcrowded.—The accommodations at the State Hospital for the Insane, Jamestown, are so inadequate that wards intended to accommodate 15 or 20 patients now are made to hold 50; that sitting rooms are turned into dormitories, and that bathroom and water-closet accommodations are absolutely insufficient and insanitary. For this reason the trustees have asked for new buildings and repairs, $100,000; for main-

tenance, $65,000; for fuel, $26,000; for wages and salaries, $57,800, sundries bringing the amount needed to $284,290.

State Bacteriologic and Pathologic Laboratory.—A bill has passed the legislature, and is now awaiting the signature of the governor, creating a state bacteriologic and pathologic laboratory, to be located at the State University and School of Mines, and to be under the control of the university trustees and the professor of bacteriology and pathology at the university, who is to be the director. The purpose of the laboratory is to make bacteriologic examinations of all kinds, and examinations of pathologic tissues submitted by the State Superintendent or county superintendent of public health or any licensed physician of the state. The specimens so obtained are to be placed in the museum of the university, and bulletins and reports are to be issued from time to time detailing the results of the work done in the laboratory. The director is also made state bacteriologist ex-officio.

Medical Practice Act Amended.—Hereafter license to practice medicine will be awarded on presentation of a diploma granted by a college giving four courses of lectures of at least eight months each and an examination in prescribed subjects. The board is given power to revoke or refuse a license for dishonorable or immoral conduct, chronic or persistent inebriety or mental aberration, excessive use of narcotics or for the practice of criminal abortion. In complaints for violating the provisions of this section of the law, the accused must be furnished with a copy of the complaint and be given a hearing before the board in person or by an attorney. The law provides for reciprocity as follows: The board, in its discretion, may grant license for the same fee ($20) without examination to applicants examined and licensed by other state examining boards maintaining standards not lower than those provided for by the law of North Dakota.

PENNSYLVANIA.

Philadelphia.

Bequests.—By the will of Kate L. Carrick $1,000 is devised to the Home for Aged Couples.——The will of Margaret Frank bequeaths $200 to the Maternity Hospital.——By the will of Mary Sharkey, St. Agnes' Hospital received $8,500.

Resident Physicians Appointed.—The following men have been appointed resident physicians in the University Hospital for a term of two years: Eldridge L. Eliason, Stirling Walker Moorhead, George Morris Piersol, Frederick Prime, Jr., Howard G. Schleiter.

Medical Inspection in February.—The medical inspectors during February made 2,215 inspections, excluding schools. The number of fumigations ordered were 690. The number of cases for special diagnosis 25. The total number of visits to schools aggregated 4,950; 823 children were excluded from schools; 255 cultures were taken; 91 injections of antitoxin were made, and 557 vaccinations were performed.

The Typhoid Fever Situation.—Between January 1 and February 17, there were reported 612 cases of typhoid fever. Of this number 8 occurred in that part of the city getting filtered water from the Roxborough filters, and only one case occurred in that part of West Philadelphia getting exclusively filtered water from the Belmont filters. From that part of West Philadelphia not supplied with filtered water 72 cases were reported. Based on cases per 1,000 in population, the above figures give averages of the seven weekly rates—for the entire city, 5.87 per 100,000 population; for Roxborough 1.3 per 100,000 population; for the filtered water district of West Philadelphia, 0.29 per 100,000 population.

Parochial Schools and Bureau of Health.—As a result of a conference between the bureau of health and the authorities of the Catholic Church, an agreement has been reached whereby the parochial schools of the city would be placed under the jurisdiction of the bureau of health, so far as relates to vaccination. In the future no unvaccinated child will be admitted to the parochial schools and all unprotected children found by the medical inspectors in these schools will be excluded until the operation has been performed. Since the beginning of the inspection of these schools 1,775 children have been discovered who either never have been vaccinated or whose vaccination scars were of doubtful protective value. These children have all been vaccinated and permitted to return to school.

Health Report.—The total number of deaths reported for the week was 599, as compared with 551 for last week, and 709 for the corresponding period of last year. Pneumonia is still prevalent, the deaths therefrom being 78, or 4 more than last week. For the first time this winter the deaths from tuberculosis—80—exceeded those from pneumonia. Typhoid fever is on the increase, and this is attributed by the authorities to the spring thaw, which has polluted the water supply. One hundred and seventy-eight cases of the disease were reported, with 12 deaths. Last week only 92 cases were reported. The principal causes of death for the week were as follows: Diphtheria, 10; cancer, 24; paralysis, 35; heart disease, 57; enteritis, 14; and Bright's disease, 50. The cases of contagious disease reported during the week numbered 272, with 24 deaths, as compared with 186 and 19 deaths for the preceding week.

Disappearance of Smallpox.—The last case of smallpox recorded in this city was Dec. 17, 1904. Since then the city has been entirely free from the disease. During the past four years about 1,000 medical students, 60 physicians, 100 nurses, and over 100 servants have been freely exposed to smallpox in the wards of the Municipal Hospital, the medical students being admitted to study the cases. Of this group, approximately 1,250 individuals, only 1 contracted smallpox. This individual, a medical student, descendant from an anti-vaccination family, through purposeful deception, gained access to the smallpox wards, contracted the disease, and was so seriously ill that for a time his life was in extreme jeopardy. During the year the percentages of deaths in smallpox patients in the Municipal Hospital may be classified as follows: Of unvaccinated cases, 32.73 per cent. died; of those vaccinated in infancy with one good mark, 3.81 per cent. died; of those vaccinated in infancy, with one fair mark, 8.13 per cent. died; and of those vaccinated in infancy, with one poor mark, 11.25 per cent. died. In general the death-rate among all cases that had ever been vaccinated was 6.72 per cent., while that for unvaccinated cases was 32.73.

TENNESSEE.

Meharry Commencement.—The commencement exercises of Meharry Medical College, Nashville, were held February 28. A class of 61 received diplomas.

Medical Examinations.—A bill has been introduced providing that, if an applicant has taken a four-year course at an approved medical institution, and in addition a post-graduate course at an approved institution, the Board of Medical Examiners shall not be required to examine him, to ascertain his ability to practice medicine, taking his diploma as evidence.

Convicted.—"Dr." David Garfinkle, Nashville, has been found guilty of practicing medicine without first having obtained a license from the State Board of Medical Examiners, and has had motion entered for a new trial.——"Dr." J. L. Lehr has been convicted, at Memphis, of sending questionable letters through the mails, and has been sentenced to be imprisoned one year in the penitentiary and to pay a fine of $250.

CANADA.

Personal.—Dr. J. George Adami, professor of pathology in the Medical Faculty of McGill University, has been made a fellow of the Royal Society of England.

Amalgamation of McGill and Bishops.—Meetings are being held between the medical faculties of McGill University and the Bishop's College University, Montreal, looking toward the amalgamation of Bishop's Medical Faculty with that of the University of McGill. No doubt the union would be favored by the medical profession of Montreal, especially as McGill is anxious to strengthen herself to contend with her powerful rival, Toronto.

Elections to the Medical Council of British Columbia.—The British Columbia Medical Council elections, February 15, resulted as follows: Victoria, Dr. J. C. Davie, Dr. O. M. Jones and Dr. C. J. Fagan; Vancouver, Dr. R. E. McKechnie and Dr. W. J. McGuigan; New Westminister, Dr. R. Eden Walker; Kamloops, Dr. Arthur P. Proctor. This is the old council re-elected with one exception, Dr. McKechnie taking the place of Dr. LeFevre, who did not offer himself as a candidate. It is taken as an endorsement of the action of the council which caused the names of two practitioners to be erased from the register for unprofessional conduct, the names, however, having since been ordered re-enrolled by order of the court.

FOREIGN.

Portrait Memorial to Karl Gegenbaur.—A life-size, marble bust of Karl Gegenbaur, the great student of comparative anatomy, is to be placed at the entrance of the Institute of Anatomy at Heidelberg, of which he was director for thirty years. All who wish to share in this memorial are asked to send their contributions to Prof. M. Fürbringer of Heidelberg.

Honors for a Russian Physician.—The municipal authorities of Moscow have decided to erect a memorial to the "never-to-be-forgotten fellow citizen, physician and philanthropist," Dr. Haas, and also to found and maintain a home for incurables to be called by his name.

Medical Certificate Before Marriage.—A Russian exchange states that the Armenian church in the Caucasus has taken the decided step that none of the clergy is allowed to perform the marriage ceremony unless the contracting parties can produce a medical certificate in regard to health.

Plague in India.—There were 34,000 deaths from plague in India during the first week in March. The Indian government is making heroic efforts to eradicate the disease by burning down whole sections of towns and segregating the inhabitants. Owing to the climate and to the conditions in the outlying districts and native sections of towns, it is difficult to cope with the epidemic, which is continually breaking out at fresh points. It is reported that 90 per cent. of those infected die.

The Porto Rico Medical Association.—The monthly bulletin of the Asociacion Medica de Puerto-Rico entered on its third year of publication in January. It announces in a recent number that its exchanges are at the disposal of the members of the association, and will be loaned, on request, to be returned by mail in a week. The annual meeting of the association was held in December, when committees were appointed to study means to prevent the spread of tuberculosis and venereal diseases in the island. Dr. Seaman, returning from Manchuria to America, described the sanitary measures in the Japanese army.

First National Medical Congress in Cuba.—More than 400 physicians have already announced their intention of attending this congress, the first national one to be held on Cuban soil. The subject of the prophylaxis of malaria and yellow fever is to be presented by J. Guiteras, A. D. Albertini and E. Martinez for the latter and I. Agostini, A. Agramonte and T. Coronado for the former. Parasitology in Cuba will be discussed by a number and the campaign against tuberculosis in the island, the sanitary statistics and the medical hydrology of Cuba will also be the subject of several addresses. E. Lopez, Juan Santos Fernandez and representatives from each province have been appointed honorary presidents. The congress is to be held at Havana in May, and the subscription is $3. The executive committee have commenced the publication of a bulletin which will contain abstracts of the principal addresses, to stimulate discussion.

Precautions Against Smallpox in Saxony.—The *Public Health Reports* state that in order to prevent the importation of smallpox into the kingdom of Saxony, the minister of the interior has decreed that all foreign workmen must be vaccinated within seven days after their arrival in Saxony, unless they can show a certificate stating either that they have been successfully vaccinated within the last ten years or have been twice unsuccessfully vaccinated, exception being made of persons who have already had smallpox. Persons who have performed military service in countries like Austria-Hungary and Italy, where recruits are vaccinated on entering the army, are also exempted. A certificate is given by the vaccinating physician showing the result of the vaccination. If the operation proves unsuccessful, it is to be repeated after one year, in case that on the expiration of such period the workman is still an inhabitant of Saxony.

Official List of Russian Wounded.—The *St. Petersburg. med. Wochft.* of February 18, states that from the beginning of the war to January 13, 1905, the number of sick and wounded was as follows: 1,710 wounded and 2,308 sick officers and 53,890 wounded and 72,531 sick privates, a total of 130,439 sick and wounded. The number of deaths during the same period among the sick and wounded was 45 wounded and 62 sick officers, and 1,242 wounded and 2,668 sick privates, a total of 4,007. The number sent to Russia was 559 wounded and 670 sick officers, and 4,121 wounded and 4,079 sick privates, a total of 9,429. On January 13 the number of sick and wounded still in the hospitals at the front was 21,554. The number of sick and wounded who recovered and resumed active service was 954 wounded officers, 37,110 wounded privates and 38,721 sick privates, a total of 77,727 who returned to their posts at the front. These figures do not include the Port Arthur district.

The Approaching International Medical Congress.—The fifth official bulletin issued by the executive committee of the Fifteenth International Medical Congress, to be held at Lisbon in April, 1906, has just been received. It brings the list of official addresses and of the speakers, and also the names of the committee of propaganda in each country, with the addresses of their secretaries. Dr. Ramon Guiteras, 75 West Fifty-fifth Street, New York, is the secretary for the national committee in the United States, as previously announced in these columns. Among the addresses we note one by Brouardel of Paris on "Death from Inhibition"; one by P. Aaser of Christiania on "Relations of Acute Infectious Diseases with Tuberculosis," and one by the editor of the *Brazil Medico*, A. de Azevedo Sodré, on "Pathology in Tropical Regions." The list is also given in the *Bulletin* of the various governments and scientific societies which have already appointed delegates to the congress, with the names of the delegates so far as ascertained.

Correspondence.

Isthmian Sanitation.

CINCINNATI, March 14, 1905.

To the Editor:—In my report on "Isthmian Sanitation" in THE JOURNAL, March 11, page 817, following a statement that the wards for malarious patients at Ancon were unscreened as late as February 21, I say:

"Yet in spite of these facts the Isthmian Canal Commission, in its report under date of Dec. 1, 1904, page 88, states that 'all cases of employes sick with malaria are taken into the Colon and Ancon hospitals and so screened that mosquitoes can not reach them'—a statement that is an absolute and unqualified falsehood."

On re-examining the publication in question, "Letter of the Secretary of War transmitting the First Annual Report of the Isthmian Canal Commission, 58th Congress, Third Session, House of Representatives, Document No. 226," I discover, much to my surprise and regret, that the report proper of the Isthmian Canal Commission ends at page 76 and that page 88, although headed "Report of the Isthmian Canal Commission," really falls within the report of Major-General Geo. W. Davis, as governor of the canal zone, rendered to the commission under date of Nov. 1, 1904. I beg to say frankly that if I had been aware of this fact at the time I framed my report I would have refrained from the harsh characterization that I unhesitatingly employed when I believed that the misleading statement had emanated from the office of the commission at Washington. For if it had emanated from the commission at Washington, which had made it physically impossible for the statement to be true, the characterization would have been thoroughly justified. Nobody, however, who has ever come in contact with General Davis, or who is familiar with his long and honorable career, and, particularly, nobody who has had occasion to observe his zealous and efficient devotion to duty in the canal zone would for a single minute believe him capable of even the slightest degree of deliberate misrepresentation. My explanation of the discrepancy between General Davis' statement and the fact—for discrepancy there exists—is that in framing his report he, not unnaturally, assumed that the plan that had been agreed on by the commission in the preceding August had been carried out in the ample time that had elapsed, little dreaming that the failure of the commission to furnish the necessary supplies had made it impossible to do so.

In this same connection and *apropos* not only of the status of the Sanitary Department, but of the efficient administration of affairs in general on the Isthmus, it should be stated that General Davis submitted a plan of organization which contemplated the creation of an executive committee, consisting of three members of the commission, including the governor of the zone, all three of whom should be constantly on the Isthmus and who should be invested with specifically defined authority to transact the necessary business of the commission *ad interim*. In submitting this very wise and obviously practicable plan, General Davis, among other things, said that "there is, perhaps, no controlling necessity why the head of the Sanitary Department should report to the governor of the zone," and proposed that such reports should go to the suggested executive committee. But the commission, by a vote of

4 to 2—Mr. Parsons was not present—rejected General Davis' plan and instead adopted Mr. Grunsky's very remarkable scheme of organization—after which they sailed away to build the canal from comfortable chairs in the Star building at Washington.

I ask for the publication of this, not only as a matter of justice to General Davis and to myself, but by way of apology to the Isthmian Canal Commission. CHARLES A. L. REED.

The Abuse of Proprietary Remedies.

PARIS, ILL., March 10, 1905.

To the Editor:—A few days ago I received a pamphlet gotten out by a proprietary medicine firm, containing an editorial from the *Vermont Medical Monthly*, attempting to justify the use of secret remedies. We are not surprised to find such articles in some so-called medical journals, but expect better things from the official organ of a state medical society. Some physicians throw secret remedy circulars into the waste paper basket at once, but I examine them, because some are well written, and because I enjoy separating the true from the false statements which they contain. After giving the subject a good deal of thought I have come to the conclusion that any physician who prescribes a secret remedy is not only very foolish, but does great harm to the community in which he pretends to practice medicine. He is like the physician who, when he found any drug that was not labeled, put it into a jar, and when he had a patient whose case he could not diagnose, stirred up the contents of the jar and gave him a few doses. As the practice of medicine consists in doing the right thing at the right time, it is absolutely necessary that the physician should know the exact quantity of each ingredient in his prescription. It is amusing to find a physician who—so far behind the times that one feels like complimenting him—claims that he is up to date simply because he is using the latest secret remedy advertised in his medical journal. He reminds me of the footrace at a circus, in which the clown, when he finds that he is being distanced, cuts across the ring and claims to have won the race. W. H. TEN BROECK.

Prophylaxis of Venereal Diseases.

DETROIT, MICH., March 9, 1905.

To the Editor:—It was with the greatest interest that I read the articles in THE JOURNAL, March 4, on the relation of venereal diseases to society, and I am heartily in sympathy with any movement which will assist in diminishing their prevalence.

In my opinion much could be accomplished toward the desired end by publishing such articles as those by Drs. Morrow, Kelly and Bulkley, in the newspapers. There is no reason why the tender sensibilities of certain over-modest individuals should be any more shocked by these articles than by the advertisements of various "quacks," which appear each day. The publishers might decline to print them, unless paid to do so, but the cost of even a paid publication would be small, compared to the educational benefit derived from it. It is all right to print these articles in medical journals, but these publications reach very few people outside the profession, and it is the laity that must be reached, if any good is to be effected.

FRANK L. TRUITT.

Booklet on Fractures Disclaimed.

WASHINGTON, March 7, 1905.

To the Editor:—I have been receiving an increasing number of letters asking for copies of a booklet on "New Method of Reduction of Fractures and Dislocations," said to have been printed by the government and to be sent to applicants in any number desired. I know nothing and am unable to learn anything about this booklet. To the first letters I replied, but I can not undertake to continue to do so, and I have notified the postmaster here not to send me any more letters addressed to "Prof. D. K. or G. K. Lamb." D. S. LAMB.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

HEADACHE POWDERS.

CHICAGO, Feb. 28, 1905.

To the Editor:—I enclose sample of "headache powders" which a patient of mine has been purchasing and taking *ad libitum*, and which seriously interfered with her recovery from an attack of mucopurulent otorrhea. I should like to learn the ingredients of the preparation. J. T. OSBALDESTON.

ANSWER.—Most of the "headache powders" on the market contain acetanilid as their essential constituent. Usually small percentages of caffein are also found, this being added to overcome the depressant effect of the acetanilid. The powder forwarded by Dr. Osbaldeston has been analyzed by our chemist, who reports it to contain 21.9 per cent. caffein and 76.5 per cent. acetanilid.

DESTRUCTION OF TOOTH PULP.

EAGLEVILLE, TENN., March 9, 1905.

To the Editor:—Please name a medicine that will kill the nerve of a tooth and state how to use it without injury to the patient. E. L. WILLIAMS.

ANSWER.—Pulps of the teeth are destroyed by the application of arsenic direct to the exposed surface. Arsenous acid equal in quantity to about one-quarter and not exceeding one-half the size of a pinhead, is made into a paste by the application of carbolic acid, creosote or one of the essential oils. The cavity of the tooth is thoroughly dried and the preparation is applied on the point of a small instrument direct to the exposed pulp. If the cavity is a difficult one for operation, a pellet of cotton the size of a pinhead may be saturated with this small quantity of the paste which may be applied direct to the exposed pulp. The tooth cavity is now sealed with wax or some substance that will seal the cavity moisture tight. This is necessary to prevent the arsenic from coming in contact with the gum and alveolar process. When the arsenic comes in contact with the pulp a severe pain is experienced and will continue until death of the pulp has taken place.

Marriages.

WILLIAM T. DALY, M.D., to Miss Kate Reed, both of Cresco, Iowa, March 2.

MEVERELL K. ALLEN, M.D., to Miss Jessie M. Rubel, both of Louisville, March 1.

HOWARD R. SWAYNE, M.D., to Miss Annie Vodges, both of Philadelphia, March 1.

T. WESTON CHESTER, M.D., to Miss Sara Hopkins King, both of Hartford, Conn., February 28.

FRANK JAMES GIBSON, M.D., to Miss Berenice Julia Denio, both of Jackson, Mich., March 3.

FRANK ARTHUR ZELLER, M.D., to Miss Mabelle Rosenbush, both of Union City, Ind., March 1.

ROBERT SCOTT HENSEL, M.D., Homestead, Pa., to Mrs. Flora L. Lupher of Pittsburg, Pa., March 1.

LUCIAN S. LAMBERT, M.D., to Mrs. A. B. Collins, both of Galesburg, Ill., at Chicago, March 4.

ALBERT EUGENE STERNE, M.D., Indianapolis, to Miss Laura Mercy Laughlin of Cincinnati, March 4.

WILLIAM STEWART REOCH, M.D., Phenix, R. I., to Miss Jeanette Macready of Providence, R. I., February 28.

Deaths.

Thomas Clement Kimball, M.D. Rush Medical College, Chicago, 1868, a member of the American Medical Association; founder of the Marion (Ind.) Hospital; a veteran of the Civil War; surgeon of the Fourth Indiana Infantry, U. S. V., during the Spanish-American War, and later division surgeon; died at Jacksonville, Fla., while on his way to his home in Marion, Ind., March 6, after a long illness, aged 62.

Henry F. Barnes, M.D. Jefferson Medical College, Philadelphia, 1854, of Indianapolis, some-time assistant superintendent of the Central Hospital for the Insane, Indianapolis; surgeon of the Eleventh Indiana Volunteer Infantry in the Civil War,

died at St. Vincent's Hospital, Indianapolis, March 2, from injuries received in a street car accident six days before, aged 76.

Edward L. Mayo, M.D. Rush Medical College, Chicago, 1868, a member of the American Medical Association; for 25 years an active practitioner of Dekalb, Ill., prominent alike as a physician and a citizen, died at his home, March 2, after many months of illness from nephritis, aged 61. At his funeral the pallbearers were all medical men of Dekalb and vicinity.

James L. Goree, M.D. Louisville (Ky.) Medical College, 1876, a member of the American Medical Association; for sixteen years an esteemed practitioner of Pine Bluff, Ark., died at his home in that city from pneumonia, March 6, after an illness of several weeks, aged 52. Members of the local profession acted as honorary pallbearers.

Garrett Murphy, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1879, of Garden City, Minn., committed suicide on his homestead near Pine River, Minn., by shooting himself through the head, January 4, aged 54. He was a member of the Blue Earth County Medical Society, and of the Southern Minnesota Medical Society.

John J. Prendergast, M.D. College of Physicians and Surgeons in the City of New York, 1868, one of the founders of the Manhattan Eye and Ear Hospital, some-time president of the Hudson County (N. J.) Medical Society, and county physician, died at his home in Brooklyn, March 1, after a short illness, following a fall, aged 57.

John W. Franklin, M.D. Transylvania University Medical Department, Lexington, Ky., 1841, surgeon of the Seventh Tennessee Infantry, C. S. A., in the Civil War, formerly a member of the Tennessee State Medical Association, died at his home near Gallatin, Tenn., February 28, aged 85.

John H. McClatchey, M.D. University of Louisville Medical Department, 1881, died at his home in Holly Springs, Miss., Dec. 18, 1904, from malarial hematuria, after an illness of nine days. He was a member of the Marshall County Medical Society.

David J. Swarts, M.D. Medical College of Ohio, Cincinnati, 1860, formerly of Auburn, Ind., assistant surgeon of the One Hundredth Indiana Volunteer Infantry in the Civil War, died on his homestead claim, near Liberal, Kan., March 3, aged 72.

John P. Ralls, M.D. Medical College of Georgia, Augusta, 1845, a member of the Alabama State Constitutional Convention, and later a member of the confederate congress, died at his home in Gadsden, Ala., November 23, aged 85.

Henry C. Van Gieson, M.D. University of Georgetown Medical Department, Washington, D. C., 1864, of Omaha, Neb., died at the family home in Dundee, Neb., March 7, from chronic nephritis, after an illness of two years, aged 65.

John Wiley Young, M.D. University College of Medicine, Richmond, Va., 1901, of Kinsale, Va., died in Bellevue Hospital, New York City, January 19, from injuries received from a fall on the ice several weeks before, aged 25.

Truman A. Pease, M.D. University of Vermont, Medical Department, Burlington, 1867, died at his home in Norwood, N. Y., February 22, aged 62. The physicians of the village and Dr. Frank J. Fuller, Potsdam, acted as pallbearers.

William G. Robinson, M.D. Bellevue Hospital Medical College, 1879, of New York City, committed suicide while suffering from melancholia, March 1, by shooting himself through the head, at East Freetown, Mass., aged 54.

John W. Lawson, M.D. New York University, New York City, 1861, surgeon in the Confederate service during the Civil War; formerly a member of congress, died at his home in Smithfield, Va., February 22, aged 86.

Thomas P. Mathews, M.D. Jefferson Medical College, Philadelphia, 1856, for twenty years a member of the Board of Visitors of the Medical College of Virginia, died at his home in Manchester, Va., January 13, aged 70.

Nicholas Nash, M.D. Kentucky School of Medicine, Louisville, 1893, of Garner, I. T., was shot and killed by a U. S. deputy marshal at Hanna, I. T., March 3, while resisting arrest on the charge of disturbing the peace.

John M. Stanley, M.D. Central College of Physicians and Surgeons, Indianapolis, 1894, of Marion, Ind., died at the home of his parents in Indianapolis, March 5, from tuberculosis, after an illness of two years, aged 30.

Paul Halderman Stehley, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1898, died at his home in Keyser, W. Va., from pneumonia, February 28, after a brief illness, aged 35.

Nathan G. Macomber, M.D. Department of Medicine, University of Pennsylvania, Philadelphia, 1871, died at his home in Central Village, Mass., March 6, from acute interstitial nephritis, aged 64.

Mortimer C. Coon, M.D. University of Buffalo (N. Y.) Medical Department, 1891, died at his home in Shelby Basin, Medina, N. Y., March 5, following an operation for appendicitis, aged 38.

William T. Edwards, M.D. Medical Department of the University of Tennessee, Nashville, 1889, died at his home in West Plains, Mo., March 2, from pneumonia, after an illness of one day.

Josiah Larendon, M.D. Medical College of the State of South Carolina, Charleston, 1861, for more than 40 years a beloved practitioner of Houston, Texas, died at his home in that city, March 6.

Andrew J. Weldon, M.D. Jefferson Medical College, Philadelphia, 1860, of Paris Landing, Tenn., who practiced in Henry County for more than 40 years, died in Paducah, Ky., March 7, aged 74.

John L. Irion, M.D. University of Louisville Medical Department, 1851, surgeon in the Confederate service during the Civil War, died at his home in Montgomery, Texas, Dec. 31, 1904, aged 79.

Charles N. Brush, Jr., M.D. Medical College of Ohio, Cincinnati, 1891, of Anderson, Ohio, died at Wickensburg, Ariz., Oct. 29, 1904, from tuberculosis, after an illness of two years, aged 32.

Daniel P. Fahrney, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1866, died from cerebral hemorrhage at his home in Hagerstown, Md., March 5, aged 65.

H. H. Young, M.D. Medical College of Ohio, Cincinnati, 1849, died at his home in New Carlisle, Ohio, February 28, from cerebral hemorrhage, after an invalidism of 15 years, aged 83.

John Willis Smith, M.D. Kentucky School of Medicine, Louisville, 1870, of Ardmore, I. T., while on his way to Chicago, died suddenly at St. Louis, from pneumonia, February 28.

George W. Rush, M.D. College of Physicians and Surgeons, Baltimore, 1894, died from pneumonia, at his home in Savannah, Ga., March 4, after an illness of three days, aged 42.

Martin H. Tierney, M.D. New York University, New York City, 1886, died at his home in Leominster, Mass., March 7, from septicemia due to a carbuncle on the neck, aged 45.

Evens B. Freed, M.D. Baltimore Medical College, 1887, committed suicide by shooting himself through the head at his office in Shippensburg, Pa., February 26, aged about 42.

Silas B. Giddings, M.D. Medical Department of the University of Missouri, St. Louis, 1849, died at his home in Gainesville, Fla., and was buried in Atlanta, Ga., March 6.

Ellis G. Whitehead, M.D. Medical Department of the University of Tennessee, Nashville, 1877, died at his home in Brushy Creek, Texas, February 27, after a long illness.

John M. Webb, M.D. Medical Department of the University of Tennessee, Nashville, 1878, of Cato, Ark., died recently at the home of his son in Olmstead, Ark., aged 69.

Liston V. Brown, M.D University of Nashville Medical Department, 1890, died at his home in Cleveland, Tenn., February 18, from influenza, after an illness of ten days.

James T. Henderson, M.D. Medical College of Indiana, Indianapolis, 1878, died at his home in Covington, Ind., March 2, from nephritis, after an illness of one week.

Reuben B. Detrick, M.D. University of Georgetown Medical Department, Washington, D. C., 1858, died at his home in Washington, D. C., Nov. 7, 1904, aged 77.

Jackson L. Moore, M.D. Medical College of Evansville, Ind., 1875, died at his home in Washington, Ind., from heart disease, after an illness of nineteen weeks, aged 71.

Andrew F. Means, M.D. College of Physicians and Surgeons, Boston, 1882, died suddenly from heart disease at his home in South Boston, Mass., March 3, aged 66.

J. H. Philpott, M.D. Cincinnati, 1854, the pioneer physician of New London, Iowa, died recently at his home in New London, aged 76, and was buried, March 7.

Samuel Belt Fisher, M.D., licensed 1897, who had practiced in Rossville, Ind., since 1857, died at his home in that place, March 5, from senile debility, aged 79.

Charles H. Brockhausen, M.D. St. Louis Medical College, 1871, died at his home in Herman, Mo., Dec. 19, 1904, from skull fracture, the result of a fall, aged 61.

James Thomas Dowle, M.D. Cooper Medical College, San Francisco, 1890, died at his home in Newman, Cal., from pneumonia, March 3, after a short illness.

Edgar W. Remington, M.D. Bellevue Hospital Medical College, New York City, 1888, of Providence, a fellow of the Rhode Island Medical Society, died recently.

Norborne C. Lewis, M.D., New York University, New York City, 1869, died at his home in Lawrenceville, Va., March 3, after a protracted illness, aged 56.

Samuel McGill, M.D. University of Virginia Medical Department, Charlottesville, 1864, died at his home in Schuyler, Va., March 2, from nephritis, aged 63.

Thomas H. Goodman, M.D. Cincinnati, 1866, died at his apartment in Saginaw, Mich., February 26, from disease of the liver of long standing, aged 64.

Seth Gordon Green, M.D. College of Physicians and Surgeons in the City of New York, died in El Paso, Texas, Oct. 25, 1904, from typhoid fever, aged 29.

James H. Cassidy, M.D. Charity Hospital Medical College, Cleveland, 1869, died at his home in Sharon Center, Ohio, March 3, aged 60.

John B. Bray, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1875, died at his home in Bridgton, Maine, March 1, aged 72.

William F. Eaman, M.D. Bellevue Hospital Medical College, New York City, 1877, died at his home in Gaines, N. Y., March 7, aged 52.

James Taylor Miller, M.D. Vanderbilt University Medical Department, 1878, died at his home in Collinsville, Ala., Dec. 10, 1904, aged 57.

William Ellershaw, M.D. Department of Medicine of the University of Pennsylvania, 1866, died at his home in Philadelphia, Dec. 9, 1904.

A. Granger Leland, M.D. University of Buffalo, (N. Y.) Medical Department, 1875, died at his home in Whitewater, Wis., Dec. 25, 1904.

Jeremiah B. Stair, M.D. Northwestern University Medical School, Chicago, 1876, died at his home in Lake Mills, Wis., Dec. 20, 1904.

D. M. Vosburg, M.D. Years of Practice, Ill., 1877, died at his home in Earlville, Ill., March 5, after a long illness, aged more than 80.

Charles W. Keifer, M.D. College of Physicians and Surgeons, Baltimore, 1877, died at his home in Mechanicsville, N. Y., Dec. 8, 1904.

Ellis A. Robert, M.D. Tulane University of Louisiana, New Orleans, 1871, died February 11, at his home in Hot Springs, Ark.

Frank Barbour King, M.D. Medical College of Ohio, Cincinnati, 1885, died at his home in Windfall, Ind., March 2, aged 49.

Cornelius J. Dumond, M.D. Albany (N. Y.) Medical College, 1865, died at his home in New York City, January 21, aged 68.

Claude Still, M.D. Memphis (Tenn.) Hospital Medical College, 1898, died at his home in Senatobia, Miss., Oct. 24, 1904.

John F. Minot, M.D. Long Island College Hospital, Brooklyn, 1882, died at his home in Boston, Nov. 16, 1904, aged 71.

G. W. Shepherd, M.D. Atlanta (Ga.) Medical College, 1897, died at his home in Apalachicola, Fla., Dec. 1, 1904.

Warren Uri Reynolds, M.D. New York, 1886, of Harlem, New York City, died in a sanitarium, March 4, aged 56.

Robert B. Noe, M.D. Missouri, 1890, died at his home in Thornton, Ind., February 1, from nephritis.

Jay A. Lovett, M.D. Chicago, 1890, died at his home in Carson City, Mich., Dec. 16, 1904, aged 50.

Richard T. Marks, M.D. Ohio, 1880, died recently at his home in Erie, Pa.

Book Notices.

THE SUPPRESSION OF TUBERCULOSIS. Together with Observations Concerning Phthisiogenesis in Man and Animals and Suggestions Concerning the Hygiene of Cow Stables and the Production of Milk for Infant Feeding, with Special Reference to Tuberculosis. By Prof. E. von Behring, University of Marburg. Authorized Translation by Charles Bolduan, M. D. First Edition. First Thousand. Cloth. Pp. 85. Price, $1.00. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1904.

This work is of practical value to dairymen, cattlemen and officers of health boards, and contains much that is interesting and suggestive to physicians and others, who are studying the problems of tuberculosis. It consists of articles previously published in the German medical press, brought together and translated by Charles Bolduan. The author believes that a primary intestinal infection is necessary for the development of consumption in both man and animals, and that this infection occurs in very early infancy, and states that "the milk fed to infants is the chief cause of consumption." He intimates that infection of the very young readily occurs, because the intestinal mucous membrane of the new-born possesses no continuous epithelial covering and is lacking in development of the tubes of the ferment-producing glands. The second article consists of observations concerning the study of phthisiogenesis in man and animals.

AN INTRODUCTION TO PHARMACOGNOSY. By Smith Ely Jelliffe, Ph.D., M.D., Professor of Pharmacognosy and Instructor in Materia Medica and Therapeutics in the Columbia University (College of Physicians and Surgeons), New York. Fully Illustrated. Cloth. Pp. 265. Price, $2.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

This book, written to meet the need of students of pharmacognosy, departs, in many particulars, from the works heretofore published in this country. Special emphasis is laid on the microscopic characteristics of blood, though their macroscopic appearance is by no means neglected. Considerable attention is given to drug powders and the chemistry of the various drugs mentioned is touched on. As an introduction to pharmacognosy the book is of practical value, and while written for the student it will be found helpful to the physician who desires to have a good understanding of his materia medica.

MALIGNANT DISEASE OF THE LARYNX (Carcinoma and Sarcoma). By Philip R. W. De Santi, F.R.C.S., Surgeon to the Throat, Nose and Ear Departments, Westminster Hospital. Cloth. Pp. 104. Price, $1.50. New York: Wm. Wood & Co. 1905.

This is a small book devoted to a consideration of carcinoma and sarcoma as found in the larynx. It contains very much that is of statistical value. The various methods of operative treatment are described and discussed. The advantages of thyrotomy as practiced in England are fully shown. The book is simple and well written and contains a large fund of valuable information, but does not contain much that is original.

Miscellany.

MISSOURI DECISION AGAINST OSTEOPATHS.

Full Text of the Supreme Court Ruling in Suit for Damages for Treating Hip Disease as Partial Dislocation.

In the Supreme Court of Missouri.
Division No. 1, October Term, 1904.
No. 11651.

Goldie O. Grainger, by her guardian, *Appellant*, vs. Charles E. Still, *Respondent*.

This is an action to recover $10,000 damages for malpractice.

At the close of the plaintiff's case the court sustained a demurrer to the evidence, the plaintiff stood on the ruling, the jury returned a verdict for the defendant, and, after proper steps, the plaintiff appealed.

The petition alleges that the plaintiff is a minor, of the age of 7 years; that her father is dead, and that she prosecutes this case by her duly appointed guardian; that prior to September, 1895, she was afflicted with a slight stiffness in her right hip, but it was not sufficient to make her lame or to cause her pain or to materially interfere with her locomotion; that at said date the defendant held himself out as the president of the A. T. Still Infirmary, at Kirksville, in Adair County, and as a practicing osteopathic physician and surgeon, and as competent, qualified and able to treat and reduce fractured, dislocated bones, nerves, muscles and blood vessels, and to treat all such dislocations successfully and to reduce them osteopathically; that on said date the defendant "made an examination of plaintiff's hip and diagnosed her disease and pronounced it a partial dislocation of her right hip joint; that defendant assured plaintiff and her parents at that time that the reduction of said partial dislocation was a matter attended with no danger and readily and easily performed, and that he could reduce said partial dislocation without injury to plaintiff"; that in consideration of the sum of $25 paid to the said infirmary, the defendant "undertook to treat plaintiff for said so-called partial dislocation of her hip; that the defendant represented and stated to plaintiff and her parents that he would treat the muscles and tendons about plaintiff's right hip osteopathically until they were sufficiently relaxed before he could reduce said so-called partial dislocation of plaintiff's said

right hip joint; that defendant from the date aforesaid did manipulate the muscles, tendons and blood vessels about plaintiff's right hip joint until about Nov. 10, 1895, when he determined that the muscles and tendons about plaintiff's right hip were sufficiently relaxed, and he then and there undertook to reduce the so-called partial dislocation of plaintiff's right hip.

"That in attempting to reduce said partial dislocation, so-called, of plaintiff's hip joint, the defendant negligently, carelessly and unskillfully took plaintiff by her right ankle, and with one of his hands and about the knee with the other hand and with force and violence, negligently, unskillfully and carelessly forced plaintiff's right leg upward, toward and against her body with such force and violence, and so negligently, carelessly and unskillfully, that he gave to plaintiff's said right hip joint a complete upward and backward dislocation. Plaintiff states that defendant did not reduce the said so-called partial dislocation of her right hip, but, on the contrary, the defendant so carelessly, negligently and unskillfully treated and managed plaintiff's disease and injury to her right hip that he permanently dislocated the same, and by defendant's careless, negligent and unskillful conduct in treating plaintiff's right hip, not only permanently dislocated the same, but injured, stretched and tore the muscles, nerves, tendons and blood vessels connecting with plaintiff's right hip joint, and as a result of defendant's said negligent, careless and unskillful treatment the plaintiff was thrown into a violent fever, which continued for a long space of time, and she was made sore, sick and to suffer great anguish and pain.

"That as a result of the careless, negligent and unskillful conduct and treatment of plaintiff's disease by defendant, her spine has become curved and her right leg rendered entirely useless and shorter than the other, and is gradually perishing, thereby rendering her maimed and deformed for life, and permanently injured, and her general health greatly impaired. Plaintiff further states that from November, 1895, until April, 1899, at the special instance and request of the defendant, she remained at the city of Kirksville aforesaid, taking osteopathic treatment under the direction of the defendant for her said hip, and until defendant refused longer to treat her and discharged the plaintiff."

The answer denies generally all the allegations of the petition, not expressly admitted, and then admits that the defendant is an osteopath, and that he treated the plaintiff osteopathically, and then alleges that at the time she was so treated she "was afflicted with hip-joint disease and a partial dislocation of the hip joint, all of her right hip as defendant then and now verily believes."

The case made by the plaintiff was this: In September, 1895, the plaintiff was a minor, aged about 3 years and 8 months, and lived with her parents in Plymouth, Ill. She was a strong, fat and healthy child, and had never required the services of a physician, except when teething. Her mother discovered a slight stiffness in her right hip when she stooped to pick up anything from the floor. She examined her hip, but could discover nothing the matter with it, and no soreness or tenderness. She had her examined by the family physician, Dr. McDaniel, and by Dr. Aiken, and they found no soreness or tenderness about the hip, but only a little stiffness when she stooped, and said that there was no dislocation, but were of opinion that she might develop hip disease. Her parents took her to Kirksville, to the defendant's infirmary, for examination. The defendant examined her, and told her mother that she had a partial dislocation of the hip, and that they handled cases of that kind successfully in two weeks, but she had better take a month's treatment. He further told her parents that she did not have hip disease. Her mother told him that her family physician said it might develop into hip disease; that her husband's people were consumptive, and she thought her father's condition might cause hip disease to develop in the child. The defendant examined her husband, but did not make a thorough examination, and said the child seemed hearty and well, and assured her mother that the child did not have hip disease, but that it was simply a dislocation. Thereupon plaintiff's parents took out a treatment card for a month, paying $25 therefor. On the following Monday the plaintiff's treatment by defendant began. It consisted of kneading the hip with the ends of his fingers and "rotating" the limb in the hip joint. The treatment lasted only three or four minutes. The plaintiff manifested no pain from the treatment. She boarded ten or twelve blocks from the infirmary, and walked back and forth every time she went for treatment, and exhibited no trouble or pain in so doing. The treatment was kept up three times a week for a little over a month, and then the defendant told her mother the hip was ready to be put back into place. On the day appointed the plaintiff walked from her boarding house to the infirmary as usual, and was in good condition. The defendant performed the operation, which is described by the mother, as follows: "He took hold of her hip, the end of her hip, with one hand a little above the knee and the other hand about her ankle, kind of brought the limb around and pushed it right up to the body, and that was all there was to it." When taken off of the operating table, she seemed hurt, cried, acted as if she could hardly catch her breath, could not stand up and sank down on the floor. She was taken back to the boarding house in a cab, crying and moaning all the time. She was put to bed, suffered great pain and acted as if she was going into convulsions. The plaintiff's mother sent for the defendant the next day, and he came and said he had put the hip into position, and "that he had given the ligaments an awful stretch"; that she would not be able to walk for several days, and that she was then too sore to be treated further at the time, but that the mother need not worry about her. She had high fever, and would scream with pain if she was touched, but the defendant did nothing then for her, the fever continued, the skin dried up and flaked off like it had been burned, and she had to be carried on a pillow for six weeks. The defendant came to see her four or five times within the next six months thereafter, but gave her no treatment. This was in November, 1895. By direction of "old Dr. Still," the mother then took plaintiff home for two months. Then she returned, and the defendant treated her for about a month, and then turned her over to other operators at the infirmary, who treated her for about four months, when they sent her home for a rest. She returned again in February, 1897, and was treated for seven months by said other operators, and was again sent home for a rest. She remained there, on their advice, for about a year, when, at their direction, she returned to Kirksville. The mother told defendant she did not see any use of their treating her daughter any longer, but he said if she would let him treat her for four months longer he thought he could "restore her limb." He treated her for that time, but she got no better. The mother then asked him how he got her in that shape, and said her father had died, and asked him if he would not help her to take care of the child and educate her, and he said he would not treat her another time unless she paid him for it, which she refused to do.

The child has never been able to walk since; her leg is shrunken, and is about four inches shorter than the other, and she has to use crutches, and she stammers when she tries to talk. She was under the treatment of the defendant or said other operators from September, 1895, to April, 1899.

Other witnesses for the plaintiff also testified to the child's condition before the defendant began to treat her and since, and as defendant's statements to her parents that she did not have hip disease, but was suffering from a partial dislocation of the hip. Ollie Merrill, a witness for the plaintiff, and at whose house she boarded, said that the day after the operation the defendant told her that "he had pushed the limb up into the body and made it go whether it wanted to or not."

Dr. McDaniel testified that he was the family physician at Plymouth, Ill., and had known the plaintiff all her life; that he examined her before the defendant treated her in September, 1895, and found her a healthy, well-grown child; that there was a slight stiffness in her right hip, not sufficient, however, to be discovered in her walk, but when she would stoop over one could discover by her motion there was a slight stiffness in her hip; there was no soreness about her hip; she did not shrink from pressure; that he knew her father was afflicted with tuberculosis and scrofula, and concluded the child might develop hip disease; that he saw her again in April or May, 1896, after the operation, and that "she could not walk a step and could not bear the least pressure on or about her right hip unless she manifested great pain"; that her condition was brought about by some other cause than hip disease.

Dr. Aiken testified to the same effect, except he said that when he examined her before the operation "her right leg was the thickness of her shoe longer than the left."

The plaintiff also called as witnesses Dr. C. B. Clapp of Moberly, Mo.; Dr. G. A. Goben of Kirksville, Mo.; Dr. E. S. Quinn of Kirksville, Mo.; and Dr. E. A. Grimm of Kirksville, Mo. They were all regular physicians and surgeons, and graduates of the allopathic school of medicine, and all practice that system, except Dr. Goben, who is a regular graduate of said school, but who said he belonged to no "pathy," but practiced whatever he found to be most beneficial to the patient without regard to what school or system taught it. They are all physicians of good standing and of long existence, and had treated hip diseases and dislocations of the various bones of the human body.

The defendant objected to the testimony of these witnesses on the ground that they were not competent, because they belong to a different school or system from that to which he belongs, and that his treatment can only be judged by members of his special school or system. The court overruled the objections and permitted the witnesses to testify.

The sum of their testimony is that there is a great difference between hip disease and a dislocation of the hip joint; that any competent physician can easily and correctly diagnose a case of hip disease; that there are three stages of the disease; that hip disease is caused by tuberculosis, and may ensue in the child from consumption or scrofula of the parent; that inflammation or pus forms in the hip joint, which manifests itself by soreness and pain when pressure is applied; that "in the early stages there is a slight stiffness, usually some pain, generally crying out at night in the sleep, contraction of the muscles and pain from inflammation, child or person will start from sleep, and some disturbance in the locomotion"; that it usually reveals itself between the ages of 6 and 12; that there is no such thing as partial dislocation of the hip in the early stages of the disease; that after the bony tissue of the head of the femur or the rim of the acetabulum has become destroyed by inflammation, the head of the femur may slip out, or partially out of the cup-shaped acetabulum, but not before; that from the condition of the plaintiff prior to the operation, they are of the opinion that she was in the first stages of hip disease, but that there was no partial dislocation of the hip; that when a patient is treated while in the first stages, the disease may be arrested; that deaths from hip disease range from 7 to 37 per cent. of the cases; that the proper medical treatment is "as complete immobilization of the parts as possible, with extension or contraction of the limb," so as to prevent friction between the head of the femur and the socket in which it rests; that the purpose of the treatment is to permit the bones to ankylose; that is, the head of the femur and the acetabulum to grow together, and to cause them to grow together straight so that the person may be able to use the leg, notwithstanding it may be stiff at the hip; that the disease usually results in a shortening of the leg, of an average of three or four inches, and that in consequence there is a "compensatory curvature of the spine"; that when a patient has hip disease, it is improper treatment to "rotate" or to move the leg or hip joint; that from their examination of the plaintiff and from the history of the case given in evidence, they were of opinion that she was in the first stages of hip disease and did not have partial dislocation of the hip; that her present condition is not the result of hip disease, but of traumatism; that is, an injury resulting from accident or violence to the hip; that she is unable to walk, and that while the hip disease seems to be arrested, or cured, as it is generally called, her leg is turned out at an angle of 45 degrees, instead of being straight, as it should be.

For the purposes of this case this is a sufficient statement of the facts and of the medical expert testimony.

At the close of the plaintiff's case, the defendant demurred to the evidence. Before the court passed on the demurrer, the plaintiff asked leave to introduce evidence to show that the textbooks used in the American School of Osteopathy are the same as used in the other medical schools in Missouri and other medical institutions, and that the osteopaths have no fixed rule of practice for the treatment of hip disease. The court treated

the offer as proved, and sustained the demurrer to the evidence, the plaintiff saved an exception and appealed.

The case stated in the petition is a diagnosis by the defendant that the plaintiff had partial dislocation of the hip, and not hip disease, treatment by the defendant for partial dislocation, and negligence and unskillfulness in both respects; and the defense is a general denial; an admission that he treated the plaintiff, and an affirmative plea that the plaintiff was afflicted with hip disease and a partial dislocation of the hip.

The plaintiff tried the case on the theory that the defendant's diagnosis was incorrect, and that she had hip disease in its primary stage, and did not have partial dislocation of the hip, and that the defendant treated her for partial dislocation; and that such treatment was improper in view of her having hip disease, and that the defendant's treatment was further negligent because it left the leg turned out at an angle of 45 degrees, instead of straight, as it should have been whether treated for dislocation or hip disease.

The defendant tried the case on the theory, first, that the plaintiff had hip disease and partial dislocation; and second, that she showed no damage because the same results would have ensued from hip disease, and that the treatment for partial dislocation did no injury.

The defendant's chief contention, however, is that he is an osteopath, and that the expert witnesses introduced by the plaintiff belong to different and hostile schools or systems from his, and, therefore, are not competent to give an opinion in the case, but that he must be judged only by the persons of his own school or system, and while the record does not show that the court acted on this theory in sustaining the demurrer to the evidence, counsel seem to agree that this was the chief reason for the ruling.

I.

The contention of the defendant that the plaintiff showed no damage because she had hip disease and the same results would have ensued therefrom, and that the treatment for partial dislocation did no injury, is untenable.

If plaintiff had hip disease, it was in the primary stage. There was no inflammation or pus or sensitiveness to pressure, and hence no dislocation attributable to that disease, for dislocation resulting from hip disease could not occur until the ravages of the disease had destroyed the head of the femur or the rim of the acetabulum to such an extent that the femur would slip out of its socket, and there is nothing in this case which affords any countenance to any such theory of the case.

But whether this was so or not, it needs no expert opinion to show to the common sense of mankind that it could not do hip disease any good to be treated, as the testimony of the lay witnesses shows that the defendant subjected the plaintiff to. A diseased hip could not possibly be benefited by giving the ligaments of the hip "an awful stretch," and forcing the femur into the socket, whether it wanted to go or not, as the lay witnesses say the defendant said he did to the plaintiff's leg. It stands to reason that inflammation is not cured or bettered by irritation or by rotating the parts so suddenly and violently as to result in fever and great soreness. If the plaintiff had hip disease, it was in the first stages, and therefore she stood a better chance of having the disease arrested or cured, by proper treatment, than she would stand after her hip had been subjected to the violent treatment that the defendant subjected it to. It is too plain to admit of argument or serious question, that it does not lie in the defendant's mouth to say that the same results would have ensued from hip disease even if he had not treated her as he did. It could as well be argued that where a patient is improperly treated for a fracture of a limb and gangrene sets in and the patient dies, that the physician is not liable, because the patient had consumption and would have died any way. A patient, however afflicted, is entitled to let nature take its course, and not have even natural consequences precipitated by the improper treatment of the physician, or by an improper diagnosis, and hence the improper treatment applied.

II.

The defendant also pleaded that the plaintiff had both hip disease and partial dislocation of the hip joint.

Of course, it is possible that one may have both hip disease and partial dislocation of the hip joint at the same time, and it is also possible that the dislocation may be the result of the advanced stage of the hip disease or from an accidental cause. But it is perfectly manifest to common sense that if the dislocation was the result of the ravages of the hip disease, which had so destroyed the head of the femur or the rim of the acetabulum so that the femur would slip out of its socket, it could as easily be slipped back again into place without any violence, and that it would be necessary to use some kind of an appliance to keep it in place until the bones ankylosed; and as the defendant did nothing of this kind it must be assumed that he did not intend by his pleading to say that the partial dislocation was the result of the hip disease, but that it was traumatic.

If it was traumatic, it was necessary and proper to reduce the dislocation, whether the patient had hip disease or not, for if it was not done the bones would not grow together straight, and hence the usefulness of the limb would be greatly impaired after the hip disease was arrested or cured. On this assumption, the defendant would not have been guilty of any negligence, for the manner of doing it is not an unusual way of reducing such a dislocation, and, in fact, is in effect the only way of doing so; the only practical difference between the way in which the defendant did so, and the use of the pulleys and of the Jarvis adjuster spoken of in Vanhouser vs. Borghoff, 90 Mo. l. c. 492, is that the defendant used his hands, while the pulleys and the Jarvis adjuster are mechanical appliances. The purpose of both is the same, to-wit, to draw the head of the femur away from the hip socket, so that it will "slip" or "snap" back into place.

But the grayamen of the plaintiff's case is that the defendant was guilty of malpractice, in that he diagnosed her case as a partial dislocation and said she did not have hip disease; and that he treated her for a dislocation when there was no dislocation, and hence no necessity or excuse for such treatment.

In support of her case, the plaintiff introduced lay witnesses who testified to the child's condition before the operation, which condition was such as would appear not to be even a partial dislocation, and to the diagnosis made by the defendant, and his statements and assurances to her parents that she had a partial dislocation and did not have hip disease, and also the testimony of Drs. McDaniel and Aiken, who examined her before the operation, as well as afterward, which testimony was admitted without objection, so far as the record shows, and who said she did not have any dislocation of the hip whatever.

This testimony made out a *prima facie* case, which entitled the plaintiff to go to the jury, and cast on the defendant the necessity of overcoming it, and making out his defense. This results without taking into consideration at all the testimony of the plaintiff's expert medical witnesses, whose testimony the defendant objected to.

III.

The defendant objected to the testimony of Drs. Clapp, Goben, Quinn, and Grim, the medical experts called by the plaintiff, "because it was not shown that they had any knowledge or information as to the method prescribed, taught or practiced by osteopaths for the treatment of hip-joint disease, and because the question as to whether the treatment administered by the defendant was correct or incorrect, must be determined by the rules and methods of osteopaths, and not by the methods or mode of treatment taught and practiced by allopathic physicians." The court overruled the defendant's objection and admitted the testimony, but the court afterward sustained the demurrer to the evidence, and counsel concede that it was for the reason expressed in this objection that the court so ruled, and it must have been for this reason, as there is none other perceivable in the record.

The duty and liability of a physician or surgeon to a patient, and what constitutes malpractice, is thus stated in 22 Am. & Eng. Enc. Law (2d Ed.) p. 789, et seq: "Malpractice is the bad professional treatment of disease, pregnancy or bodily injury, from reprehensible ignorance or carelessness, or with criminal intent.

"A physician, surgeon, dentist or other medical practitioner offering his services to the public as such, impliedly contracts that he posseses and will use in the treatment of his patients a reasonable degree of skill and learning, and that he will exercise reasonable care and exert his best judgment to bring about a good result. A failure to perform this contract renders him liable for injuries caused to the patient thereby.

"The standard by which the degree of care, skill and diligence required of physicians and surgeons is to be determined is not the highest order of qualification obtainable, but is the care, skill and diligence which are ordinarily possessed by the average of the members of the profession in good standing in similar localities, regard being also had to the state of medical science at the time.

"Unless it is so provided by an express contract, the physician or surgeon does not warrant that he will effect a cure or that he will restore the patient to the same condition in which he was before the necessity for the treatment arose, or that the result of the treatment will be successful."

The same work, at page 801, then says: "The law, in the absence of a special statute, does not give exclusive recognition to any particular school or system of medicine, and the question whether or not a practitioner in his treatment of the case exercised the requisite degree of care, skill and diligence is to be tested by the general rules and principles of the particular school of medicine which he follows, not by other schools.

"A school of medicine, to be entitled to recognition under this rule, must have rules and principles of practice for the guidance of all its members, as respects principles, diagnosis and remedies, which each member is supposed to observe in any given case. A class of practitioners who have no fixed principles or formulated rules for the treatment of diseases must be held to the duty of treating patients with the ordinary skill and knowledge of physicians in good standing."

In support of the doctrine of the text the following cases are cited Force vs. Gregory, 63 Conn., 167; Ib. 36 Am. St. Rep. 371; Ib. 22 L. R. A. 343; Bowman vs. Woods, 1 Greene (Iowa), 441; Patten vs. Wiggin, 51 Me., 594; Ib. 81 Am. Dec. 593; Hesse vs. Knipple, 1 Mich. N. P. 109; Martin vs. Courtney, 75 Minn. 255; Ib. 77 N. W. Rep. 813; Corsi vs. Maretzek, 4 E. D. Smith (N. Y.), 1; Williams vs. Poppleton, 3 Oregon 139, and Nelson vs. Harrington 72 Wis. 791; Ib. 7 Am. St. Rep. 900.

A short review of those cases is both pertinent and interesting. Force vs. Gregory, 63 Conn., 167, was a suit for damages for malpractice in treating plaintiff for ophthalmia. The defendant was a homeopathic physician and treated the plaintiff according to the system of that school. There was no question as to the diagnosis of the case. It was simply as to the treatment. The defendant asked the court to instruct the jury, "that treatment by a physician of one particular school is to be tested by the general doctrines of his school, and not by those of other schools." The trial court refused to so instruct, but instead instructed the jury as follows: "In regard to that matter, I will say that the defendant's negligence or want of skill in the treatment of the plaintiff's eye must be determined by all of the evidence in the case, and if the defendant adopted the treatment laid down by one particular school of medicine and the medical testimony offered by plaintiff related to treatment prescribed by a different school, you will weigh the testimony, having regard to any bias or prejudice that might influence the testimony of those who belonged to a different school from that of the defendant. You should also take into consideration the training and education of the defendant for his profession, the experience which he has had, the degree of skill with which he handled the case, all bearing on the question whether the defendant used ordinary care and skill in the treatment of the plaintiff."

The Supreme Court of Connecticut, quoted with approval, the cases of Patten vs. Wiggin, 51 Me., 594, and Bowman vs. Woods, 1 Greene (Iowa), 441, and held that the trial court erred in not instructing as the defendant asked, and instructing as it did, and said that "the jury are not to judge by determining which school, in their own view, is the best," and that the bias and prejudice of one school against the other is the very thing that defendant stood in danger of, and that as it appeared that the homeopathic school prescribed certain rules and principles of practice for the guidance of its members in such cases, and as the defendant belonged to that school, he could only be judged

by the doctrines of his school and not by those of other schools, and accordingly reversed the judgment of the lower court, which was in plaintiff's favor.

Patten vs. Wiggin, 51 Me., 594, was a suit for professional services. The defense was malpractice. The report of the case does not show to what school of medicine the plaintiff belonged, or whether physicians of any other school testified, nor what the disease of the defendant was, nor whether the malpractice consisted of an improper diagnosis or an improper treatment. It simply shows that the defendant claimed that the plaintiff was guilty of malpractice "in the treatment, and such ignorance, and want of skill and judgment on the part of the plaintiff in managing the case, that the patient was more injured than benefited by his treatment."

The trial court instructed the jury in regard to the general duty and liability of a physician, substantially as hereinbefore quoted from the American and English Encyclopedia of Law, and then added: "If the case is such that no physician of ordinary knowledge or skill would doubt or hesitate, and but one course of treatment would, by such professional men, be suggested, then any other course of treatment might be evidence of a want of ordinary knowledge or skill or care and attention, or exercise of his best judgment, and a physician might be held liable, however high his former reputation. If there are distinct and different schools of practice, as allopathic, or old school, homeopathic, Thompsonian, hydropathic or water cure, and a physician of one of these schools is called in, his treatment is to be tested by the general doctrines of his school, and not by those of other schools. It is to be presumed that both parties so understood it. The jury are not to judge by determining which school, in their own mind, is best." The court also instructed the jury "that in cases where authorities differ, or 'doctors disagree,' the competent physician is only bound to exercise his best judgment in determining which course is, on the whole, best."

The Supreme Court said: "The instructions given were in accordance with well-settled principles of law," and affirmed the judgment in favor of the plaintiff.

Bowman vs. Woods, 1 Greene (Iowa), 441, was a suit for damages for malpractice in a case of accouchement, in that the defendant failed to remove the placenta or to relieve the bladder for thirty-six hours after parturition. The plaintiff showed by the testimony of allopathic physicians that such treatment was improper and liable to result in puerperal fever. The defendant then offered to prove that he was a botanical physician, and that according to the botanical system of practice and medicine, it is considered improper to remove the placenta, and that it should be permitted to remain until expelled by the efforts of nature. The trial court excluded the testimony so offered. The Supreme Court held that no particular system of medicine is established or favored by the laws of Iowa, "and as no system is upheld, none is prohibited; that the regular, the botanic, the homeopathic, the hydropathic and other modes of treating diseases are alike unprohibited," and that "a person professing to follow one system or medical treatment can not be expected by his employer to practice another. . . . Therefore, if in this case the defendant below could show that he was employed as a botanic physician, and that he performed the accouchement with ordinary skill and care, in accordance with the system he professed to follow, we should regard it as a legal defense." Accordingly, a judgment in favor of the plaintiff was reversed.

Martin vs. Courtney, 75 Minn. 255, was a suit for malpractice against an allopathic physician and surgeon, in the amputation and subsequent treatment of the plaintiff's husband's toes, which had been crushed by accident. A second amputation was found necessary, and the sole point was whether it should have been of an additional quarter of an inch of the foot or of the whole foot at the ankle. Another allopathic physician testified that the defendant had acted properly. But the plaintiff called a homeopathic physician and asked his opinion as to whether the treatment was proper. On objection being made to this the witness testified that there is a decided difference between the rules and principles of the two schools as respects "the practice of medicine," but not as respects surgery; that there was no difference between the two schools as to the treatment of sepsis connected with surgery, but there was a difference where the sepsis has produced a diseased condition, for then it became a question of disease and not of surgery, and the treatment of the two schools would be entirely different. The defendant offered to prove that the two schools are hostile to each other in their rules of treatment of sepsis, even in cases connected with surgery. The trial court excluded the evidence offered by the defendant, and permitted the homeopathic physician to testify. The Supreme Court held this to be error, and that a physician must be judged by the rules and principles of medicine of the school to which he belongs and not by those of any other school, and accordingly reversed a judgment in favor of the plaintiff.

Corsi vs. Maretzek, 4 E. D. Smith (N. Y.), 1, was a suit by an opera singer against the director of the opera for two weeks' salary. The defense was that the plaintiff failed to appear at an entertainment, and that his contract provided that in such event he should forfeit a month's salary unless he was prevented by sickness, which had to be proved by a doctor appointed by the director, and that the director had appointed such doctor, but that the plaintiff did not prove his sickness by him. The defendant proved by an allopathic doctor that he was sick, and claimed that the doctor appointed by the director was a homeopath, and contended that a homeopath was no doctor at all. The plaintiff recovered in the lower court, and the defendant appealed to the Court of Common Pleas of the city and county of New York. The decision of the latter court is quite interesting as a review of the origin and development of the science of medicine, and holds that a homeopath is a doctor, but decision does not throw any light on the case at bar.

Williams vs. Poppleton, 3 Oregon 139, was a suit for damages for malpractice in the treatment of plaintiff's fractured ankle. The only point in the case which at all bears on this case is that the court held that, "If the treatment is according to a recognized system of surgery, it is not for the court or jury to undertake to determine whether that system is the best among the many that may be adopted by different branches of the medical profession. It is sufficient if the practitioner follow any of the known and recognized systems."

Hesse vs. Knipple, 1 Mich., N. P. 109, was an action for damages for malpractice. It is a charge to the jury by a *nisi prius* judge, and contains nothing that is pertinent to the question here under discussion.

Nelson vs. Harrington, 72 Wis., 591, was a suit for malpractice. The defendant was a clairvoyant, and claimed to diagnose and treat diseases, by going into a trance, and while in that state to receive information as to the character and proper mode of treating the disease. The court held that allopathic physicians were competent, in such case, to give an opinion as to the correctness of the diagnosis and treatment. The decision also holds, as the rule is hereinbefore stated, that to constitute a school of medicine it must have rules and principles of practice for the guidance of all its members as respects principles, diagnosis and remedies, which each member is supposed to observe. That case is cited and quoted from approvingly by Burgess, J., in Longan vs. Weltmar, 79 S. W. Rep., I. C. 658, to which reference will hereafter be made.

This is the state of adjudication in other jurisdictions. It is to the credit of the gentlemen of the medical profession in this state that very few cases of this character have heretofore reached this court. The first case reported is West vs. Martin, 31 Mo., 375. It was a suit for damages for malpractice. This court, per Ewing, J., said: "Whether errors of judgment will or will not make a surgeon liable in a given case depends not merely on the fact that he may be ordinarily skillful as such, but whether he has treated the case skillfully or has exercised in its ordinary treatment such reasonable skill and diligence as is ordinarily exercised in his profession. For there may be responsibility where there is no neglect, if the error of judgment be so gross as to be inconsistent with the use of that degree of skill that it is the duty of every surgeon to bring to the treatment of a case according to the standard indicated." That case did not involve the question now under consideration.

Vanhouser vs. Berghoff, 90 Mo., 487, was a suit for damages for malpractice in not using proper appliances to hold the limb in place after a dislocation of the hip had been reduced. Prior to the treatment by the defendant the plaintiff had been treated by other doctors, of the same school of medicine with the defendant, who had tried to reduce the dislocation by "manipulation," and had failed. The defendant also tried to reduce it by "manipulation" and failed, and then he used pulleys and the Jarvis adjuster to extend the limb so as to permit the head of the femur to "snap" into the socket. There was no question about the diagnosis being correct, nor as to the use of the pulley and Jarvis adjuster, but the whole question was as to whether the defendant used proper appliances to keep it in place. It slipped out of place after the first operation, and a second operation was necessary. There was no question as to the different schools of medicine, as all the experts belonged to the same school of medicine with the defendant.

Wheeler vs. Bowles, 163 Mo., 398, was an action for malpractice in reducing a dislocation of the shoulder. The instructions given stated the general rule as to the duty and liability of physicians and surgeons, which this court quoted and approved. The case did not involve any difference of schools of medicine, as the experts all belonged to the same school with defendant.

Longan vs. Weltmar, 79 S. W. Rep., 655, was a suit for damages for malpractice. The defendant claimed to be a "magnetic healer," who healed by a power which he alone possessed. He did not belong to any school of medicine. He objected to the competency of physicians of the allopathic school. He treated the plaintiff for some derangement of the stomach, by placing the plaintiff on her back on a padded table, and then put one hand on her stomach and the other hand under her knees, and bent her so that her knees touched her breast. He then placed her on her stomach on the padded table and put his left hand on the small of her back over her spine, and his right under her knees and bent her legs up until she screamed with pain. This treatment resulted in the ligaments connecting the backbone and hipbone being ruptured and torn and the back and spine and pelvic organs being permanently injured.

This court quoted approvingly the decision of the Supreme Court of Wisconsin, in Nelson vs. Harrington, 75 Wis., 591, and in speaking of the medical expert testimony said: "While it is true that the physicians who testified on the part of the plaintiff did not claim or pretend to know anything about the practice of magnetic healing, they were nevertheless competent, from education and experience, to testify whether the treatment which plaintiff underwent was proper in any case, and especially in her condition. Simply because a person claims or pretends to possess certain powers of healing peculiar to himself is no reason why other persons, who do not claim such powers, but who have knowledge acquired from education and practice, are not competent to judge whether the treatment administered was negligently or carelessly done. Otherwise, any non-professional person might undertake to treat a certain disorder, and (if defendant's position be correct in law) it mattering not how carelessly or negligently his acts were performed, because, forsooth, no one could be found of the same pretensions to testify with respect to such treatment, the injured person would be without remedy. The contention, we think, is untenable."

From the foregoing it will be seen that while the prior decisions of this court state the general rules as to the liability and duties of physicians and surgeons, substantially as they obtain in other jurisdictions, the precise question here involved has not undergone adjudications by this court. The case is, therefore, one of the first impression in this state, and its importance is a sufficient excuse for the length of this opinion.

At the outset of the discussion it is important and essential to note the provisions of the statutes of this state which bear on the question.

Chapter 128, R. S., 1899, relates to medicine, surgery and dentistry. Article 1 of that chapter (Sec. 8507) provides: "Every person practicing medicine and surgery, in any of their departments, shall possess the qualifications required by this article." In brief, the qualifications are that the person shall be a graduate of some legally chartered medical institution in good standing, of whatever school of medicine, and the person exhibiting the same shall be licensed to practice by the State Board of Health, which board is prohibited from discriminating against the holders of any diploma or license under any system or school of medicine.

If not such a graduate, the person must stand an examination before the said board.

Article LV of said chapter relates to osteopathy. Section 8537 prescribes that "the system, method or science of treating diseases of the human body, commonly known as osteopathy, and as taught and practiced by the American School of Osteopathy of Kirksville, Mo., is hereby declared not to be the practice of medicine and surgery within the meaning of Article I of this chapter, and not subject to the provisions of said article."

Section 8538 of said Article IV is as follows: "Any person having a diploma regularly issued by the American School of Osteopathy of Kirksville, Mo., or any other legally chartered and regularly conducted school of osteopathy, who shall have been in personal attendance as a student in such school for at least four terms of not less than five months each before graduation, shall be authorized to treat diseases of the human body according to such system, after having filed such diploma with the clerk of the county court of the county in which such person proposes to practice; and having filed with such clerk an affidavit that the diploma is genuine, and that he or she is the person to whom the diploma was issued and that all the provisions of the article were fully complied with before the issuing of such diploma; whereon the clerk shall record such diploma in a book to be provided by him for that purpose, and shall endorse on such diploma the date of filing and recording the same, for which he shall receive from such person a fee of one dollar."

Section 8539 of said article makes it a misdemeanor for any person to practice or use the system, method or science or osteopathy in treating diseases of the human body without having complied with said article. But said section concludes as follows: "*Provided*, That nothing of this article shall be construed as prohibiting any legally authorized practitioner of medicine or surgery in this state from curing or relieving disease, with or without drugs, or by any manipulation by which any disease may be cured or alleviated."

It will thus be observed that the position of osteopaths in this state is not only anomalous, but that it is *sui generis*. Anomalous because while it is spoken of as a system, method or science, it is yet declared not to be the practice of medicine and surgery in any of its departments. And *sui generis*, because osteopaths are not subjected to the jurisdiction of the State Board of Health, as all other practitioners of medicine and surgery in any of its departments are. Yet any legally authorized practitioner of medicine and surgery is expressly permitted to cure or to relieve diseases, with or without drugs or by any manipulation by which any disease may be cured or alleviated.

In other words, osteopaths are not physicians or surgeons in any of the departments of medicine or surgery, but may cure or relieve any disease of the human body according to the system, method or science as taught by the American School of Osteopathy of Kirksville, Mo., or any other legally chartered and regularly conducted school of osteopathy.

Neither the statute nor the record in this case shows what such system, method or science is. The plaintiff offered to prove that they use the same text-books as other schools of medicine, and also that they have no fixed rule of practice for the treatment of hip-joint disease, and for the purpose of the case the trial court ruled that such facts might be considered as proved.

On their face these two things seem to be inconsistent, for if osteopaths teach the same text-books as other schools of medicine and surgery, it can not be true that they have no fixed rule of practice for the treatment of hip disease, because such text-books of other schools of medicine and surgery prescribe rules for the treatment of hip-joint disease, as the testimony in this case clearly shows.

If it be true that osteopaths teach the same text-books as other schools of medicine, then there can be no reason why a physician of any other school is not a competent witness to express an opinion as to the correctness of the diagnosis and treatment of hip disease by an osteopath, because *pro hac vice* the rules and practices of both are the same.

On the other hand, if osteopaths have no fixed rule of practice for the treatment of hip disease, which all must adhere to, then they do not constitute a school of medicine and fall in the category spoken of in Nelson vs. Harrington, 75 Wis., 591, and Longan vs. Weltmar, 79 S. W. Rep., 655, and regular practitioners of medicine and surgery are competent witnesses, and it may be safely assumed that osteopaths would not willingly be so classed, nor is it fair to so class them without more satisfactory evidence than is disclosed by this record.

It is said that allopaths are "antis" and homeopaths are "similias," but that osteopaths are neither. This may be true, but the terms relate rather to the treatment or remedies employed to cure disease than to the diagnosis of the disease. The disease is the same no matter which school of medicine the attending physician belongs to. And, judging by the examination of the witnesses in this case and by the theories on which both parties tried this case, hip disease is ascribed to the same causes, and the diagnosis of the case is the same, by both osteopaths and physicians and surgeons of every other school of medicine. They may differ as to the proper treatment of the disease after its presence is ascertained, but there is no difference as to diagnosis. And the same is true as to dislocations.

This being so, there is no sound reason why a physician of any school should not be a competent witness to testify whether a patient has hip disease, dislocation or as to any diagnosis of any disease. The bias or prejudice of one school of medicine against another can not affect the question of the diagnosis, however much it might affect the treatment employed by the other school.

At least this is the common sense of the matter, and is the only conclusion that is fairly deducible from the testimony in this case and from the theories on which both parties tried this case, and from the offer of proof made and treated as proved at the close of the plaintiff's case.

It therefore follows that the expert medical witnesses offered by the plaintiff were competent to express an opinion as to the diagnos's that was made by the defendant of the plaintiff's trouble, as related by the law witnesses, to-wit, that she had partial dislocation of the hip joint and did not have hip disease, and also competent to testify as to any scientific fact that is or ought to be known to every physician and surgeon of every school or system, but they were not competent to express an opinion as to the treatment of the plaintiff by the defendant unless it should appear that both the schools to which the witnesses and the defendant belonged employed the same treatment.

This seems the safest rule to adopt in such cases and the one least liable to cause injury or injustice to either party. It must be borne in mind, however, that only the plaintiff's side of this case is before the court, and that the defendant has not shown his side of it, except as his cross-examination of the plaintiff's witnesses indicates it.

For these reasons the judgment of the Circuit Court is reversed and the cause remanded to be tried in accordance herewith. All concur. W. C. MARSHALL, Judge.

PROPRIETARY REMEDIES.

Some Comments on the Creation of the Council on Pharmacy and Chemistry.

We quote the following from some of our exchanges:

The *Boston Medical and Surgical Journal* says: "A movement which should be most valuable in its results has been started by the American Medical Association. . . . The plan outlined must meet with the general approval not only of the medical profession, but also of manufacturing pharmacists and chemists who are striving to live up to their professions in serving the public. It has long been evident that many preparations of distinct value in medical practice are now on the market and are being extensively used by reputable physicians, which, for obvious reasons, have found no place in the Pharmacopeia. It is also true that many preparations are before the public which, for one or another reason, do not deserve confidence. There should certainly be some authoritative board which will decide, so far as possible, the question of the legitimacy of preparations, a matter which is clearly quite beyond the power of the individual physician to determine. That the work before the council will demand much tact and judgment is evident. For this very reason it is the more needed. . . . The names of . . . many . . . members of the council insure a conscientious and scientific investigation of the claims of the various medicinal productions. Beyond the inherent difficulties of the task which this council has undertaken we can conceive of no possible objection to the plan, and on the other hand can see in it a very distinct advantage to the profession at large."

American Medicine says: "It . . . must interest every medical journal and, indeed, every physician in the United States. THE JOURNAL of the Association, with its immense resources, as well as by its function as the official organ of the largest medical organization, is fitted for and is capable of undertaking the task which, by reason of those same qualifications, becomes in a way its duty. . . . The need of a book of this character can not be questioned. It is demanded in the interest of honest pharmacy and chemistry, but, above all, by physicians who need a work to which to refer for information regarding the character, reliability, etc., of the various preparations mentioned in medical literature, and brought to their attention in various ways, as well as to assist them in separating the secret nostrums from preparations which are honestly made and ethically exploited, and which are worthy of their recognition. One of the points chiefly to be commended as to the plan is that it encourages the ethical preparations in an indirect but still positive manner, while its disapproval of the unethical is purely negative. It simply does not accept. With the decisions of the council motived on strictly professional considerations, the way is at least prepared for a final solution of the old and tormenting problem of the stand as to nostrums and proprietaries. Therapeutics does not enter into the concern of the council, so that there will still remain a part, though we believe a small part, of the ancient difficulty—that with the secret remedy which may have some special therapeutic value. The limitation of the time in which a copyrighted name and secret formula may be legally allowed will lessen this somewhat remote scandal."

The *New York Medical Journal* remarks: "The ten rules which have been formulated for the guidance of the council, . . . in so far as any rule can be formulated for the distinction of objectionable from non-objectionable preparations, seem to us to be quite satisfactory. The composition of the council is one which gives assurance of really expert and sane

advice; but even with the best intention and with the most expert administration, the establishment of such a censorship is likely to prove a source of serious contention, and will undoubtedly involve the association in trouble of a kind that it has been heretofore free from."

Protracted Menstruation.—Gelli of Florence, Italy, reports in the *Bolletino di Ost. e Gin.*, a case of apparently normal menstruation continued to the age of 76. The subject was a robust working woman, and the physician, summoned for an acute liver colic, found that the uterus contained a fibroma the size of a fist.

Ovarian Tumors During Pregnancy.—G. Guicciardi, of Florence, reports in *Ginecologia*, I, No. 9, 1904, eight cases of ovarian tumors removed during pregnancy or labor. The results confirm the great advantages of prompt operation in such cases, preferably during the second to the fourth month, avoiding merely the dates of the suppressed menses.

Rupia.—Syphiloderma bullosa is characterized by circinate coalescent groups of blebs, breaking in a day or so; coppery discoloration and thick, brown-green, adherent, imbricated "oystershell" crusts over irregular ulcers, occurring in the late stage of acquired syphilis in broken-down subjects or in early hereditary syphilis. The main point in treatment is to push the iodids—large doses in plenty of water after meals.—*Denver Medical Times.*

Cancerous Degeneration of Stump After Amputation of Cervix.—E. Pestalozza of Florence, adds 5 to the 14 cases collected by Richelot in which an epithelioma had developed on the stump of the cervix after partial hysterectomy. The list includes 3 personally observed. He states editorially in *Ginecologia*, I, No. 21, 1904, that the Italians now make a practice of the total operation—other things being equal—when there is any family history indicating a tendency to malignant neoplasms. Otherwise the incomplete operation is preferred.

The responsibility for the quack medicine abuse lies very largely with the druggist. Until physicians recognize the absurdity of sending prescriptions to druggists who are systematically engaged in cutting the doctors' throats through the sale of quack medicines, and take some concerted action to end that abuse, people of even average ordinary abilities will continue to go to drug stores and buy fake cures for self-administration. There may be an excuse for the country grocery store offering for sale the cough cures which are advertised along the highways, but the pharmacist who compounds the doctor's prescription should see the propriety of not working against the doctor's interest.—*Monthly Cyclopedia of Pract. Med.*

Passive Palpation of the Stomach.—Giuffré of Naples has recenty called attention in the *Morgagni*, July, 1904, to a means of outlining the stomach which may be of service when other means of diagnosis are not available or need confirmation. The subject reclines or, better still, lies with the head a little lower than the rest of the body, after drinking a little water, not more than 100 gm. The physician places his hand on the stomach region and asks the subject to stop breathing, during a deep inspiration, and to contract his diaphragm or the abdominal muscles alternately. This forces the water in the stomach forward or backward, and the passively palpating hand can readily perceive the impact of the water and can note the point where it stops, which is the outline of the stomach.

The Value of Medical Training.—Sir Conan Doyle, who studied and practiced medicine before he made literary work his vocation, states there was a time when a course in law was a part of the routine education of many young men who were planning to enter special fields of work. He says: "I believe the time will come when the similar young man will be passed through medicine, because I know no other means by which he could get to the fundamental and absolute facts of life. The mere fact that in his training a man has to undergo so searching an ordeal in the most critical years of his life, and to pay such enormous attention to detail, is in itself evidence that he receives a splendid training. I have always said that for a man who has mastered 'Gray's Anatomy' life has no future terrors."

The Probability of Error.—An interesting computation of the possibility of error was brought out by Branwell in the *Medical Chronicle*. He calculated that the numerical odds against the probability of a certain will being made without proper understanding on the part of the patient were 1,072,000,000 to 1. A woman aged 75, suffering from aphasia and right side hemiplegia, made a will by nodding her head and squeezing the hand of the lawyer in reply to questions. Five names of persons were mentioned three different times, the order of the names being reversed and altered. The woman specified the same beneficiaries in each test, and by taking into consideration the possibility of computing the chance of her giving no answer or the wrong answer, etc., Branwell concluded that the odds against her having given the same answers in the three tests by pure chance were 1,072,000,000 to 1.

Newspaper Comment as a Professional Stimulus.—We read that in a certain town in Illinois a discussion has arisen regarding the mention in newspaper reports of the name of the attending physician of an accident case. One physician is quoted as saying that the statement in a newspaper of the name of the surgeon involved "would spur him on to greater efforts to secure the complete recovery of his patient." We always hesitate to comment on newspaper quotations of the alleged statements of physicians; but if any member of our profession made the foregoing remark he should instantly matriculate into some profession or business where the lack of journalistic comment, which is so stimulating to him, would not necessarily imperil the lives of others. The remarks exhibit a mental attitude that we can not harmonize with our concept of any physician, however unfit.—*N. Y. Med. Jour.*

An Increase of Medical Students.—The question may be pertinently asked if organized medicine under the leadership of the American Medical Association should not discourage prospective students from entering the medical field. Even if no recommendation is made, would it not be well for the authoritative medical body to tell prospective medical students that there is practically no demand for their services, that the field is already overcrowded, and that the prospect of obtaining a livelihood by the legitimate practice of medicine is becoming poorer every year and in a short time will reach the vanishing point? This step has been taken in Germany, a pamphlet having been issued for the purpose of persuading those who are about to come up for their final examination in the high school to avoid a medical career. Since 1876 the number of physicians in Germany has more than doubled, and it has become almost impossible for many of them to make even a simple living from the practice of their profession.—*Medicine.*

Lucid Brevity.—In his inaugural address the new president of the Academy of Medicine used the words "lucid brevity" as describing the characteristics he particularly wished to see in the communications laid before that body. "Never," writes an ex-president of the academy "were two words more aptly put together. Would that they might be woven into the web of all medical discourse, and water-marked on every page of medical writing! Verbosity is the plague of scientific discussion. It may arise from inability to think clearly, but quite as often it results from inability of the speaker or writer to lose himself in his subject. Certain tricks of verbiage find their usefulness in making and keeping the author's personality as vivid to the listener or to the reader as it is to himself. Let us hope that Dr. Dana, as presiding officer, will have the hardihood to make such use of the gavel, in extreme cases, as will secure a measure of brevity whether 'lucid' or not. If he does this, he will add greatly to the interest of the proceedings."—*Medical Record.*

Eat to Live, or Live to Eat?—Man should live one hundred years, barring hereditary frailties, said Dr. J. J. Mulheron,

Detroit, before a lay audience. The life of a lower animal is five times as long as its period of growth. For instance, the horse attains his full growth in four years and lives twenty years; the elephant in twenty years and lives one hundred years. Overeating is one of the chief causes of early death. A person who has attained the age of twenty five years should not indulge in three full meals a day. "The human body normally starts out freighted for one hundred years, and it is man's own violation of the laws of nature that causes premature death. I do not believe that disease is ordained of God. When man learns to obey nature, then he will pass away at the end of his century like the famous one-horse shay. The Roman Catholic Church prescribes rules of fasting during lent. It allows one full meal and two light repasts each day. That the hygiene is excellent is beyond dispute, and the only quarrel we physicians have about the matter is, that the rule affects but one church, and that for only six weeks in the year.

Reflex Paresis Originating in Ear.—A. Pugnat of Geneva describes, in the *Revue Hebd. de Laryngologie*, xxv, No. 49, 1904, a case of otitis distinguished by disturbances in speech and writing. Reflex paralysis and paresis of the limbs in cases of ear affections have been reported by Urbantschitsch this year and last. These disturbances are liable to accompany any ear affection, but especially otitis media, and generally on the side affected. They may subside early or may persist indefinitely, and the intensity of the paralysis and paresis is by no means always commensurate with the severity of the ear trouble, some instances of severe paralysis having been observed with a slight catarrhal affection of the middle ear. Tamponing of the middle ear has been known to affect the writing, some subjects not being able to write at all immediately afterward. The reflex paresis in the laryngeal muscles causes phonetic disturbances. In the case described all these troubles were associated, accompanying an acute catarrhal otitis. The subject was a young woman, the otitis following the grip. The auricular origin was manifest and confirmed by the subsidence under treatment of the ear affection, of the paretic symptoms and of the modifications in voice, handwriting and other uses of the hand.

Feeding at the Public Crib.—"The annual raid on the public treasury by the private charitable institutions of Pennsylvania is now in progress," says the editor of *American Medicine*. "Would the 'visitor from Mars' believe when told that nearly 200 of these institutions have applied for their share of the $15,000,000 of the taxpayers' money, and that 175 of them have had their prayer granted by the State Board of Charities, which recommends that nearly $10,000,000 be parceled out among them? As regards those few institutions owned and controlled by the state, there is of course no question, but as to the others there is little or no genuine government control and no just or judicial discrimination as to service rendered or real desert. What part private and personal interest indirectly plays in all this, and what portion is motived by corrupt greed and 'division of the spoils' by a boss-governed and ring-ruled travesty of 'statesmanship,' none may hazard an exact estimate. Many of the most deserving charities, and those performing the highest and best service to the community, can not bring themselves to apply, and would probably be refused if they should do so. Many others are ruled by the consideration that if they do not put in their applications the money will go to far less worthy institutions, and so each year the mad race goes on from bad to worse. And the mouths of thousands of institutional trustees and administrators are padlocked as regards the political rottenness of city and state legislation and government. The appropriation to their institutions would at once be stopped by the 'machine' should a hint of criticism or reform be ventured."

The Bitter Tonics and Strychnin.—It has been found that the older theory as to the action of bitter tonics is not reliable. In cases of hyperchlorhydria, it is true, they are likely to do harm by stimulating the secretion of still more acid, in accordance with theory. But, in cases of subacidity, in which their hypothetic stimulating action is just what is desired, it has been learned that they can not be depended on. When we consider, in addition, that the decision as to excess or deficiency of hydrochloric acid according to the symptoms presented and without scientific examination, is likely to be in error, it will be seen that the therapeutic effect of the simple bitters, as ordinarily prescribed, is a very uncertain one. For some years we have relied almost exclusively on strychnin to stimulate the secretory and motor power of the stomach, although it must not be supposed that this drug is entirely satisfactory or capable of replacing other more local measures. A very puzzling group of cases is that in which, with relaxation of the cardia and without the presence of a sacculated or prolapsed stomach, the food does not pass out of the stomach at the proper time. Here we must ask—and often without being able to answer our question—is the delay due to spasm of the pylorus or asthenia of the gastric muscle generally? In another group of cases, with weak circulation and general depression of strength, there is spasm of the pylorus or cardia, or of the whole gastric musculature. In these cases it is difficult to balance the apparent indication for and contraindication toward strychnin, and we must have recourse to empiricism.—*Medical Herald.*

The Real Problem of Science.—*Public Opinion* remarks, "The grouping of facts is one thing, but generalization from the facts splendidly complements the work of observation. But the work of observation and the work of generalization are disparate. The perplexing situation is directly brought out in the year-book of the Carnegie Institution, which contains, among other recommendations, one by Dr. Simon Newcomb that an institute be established for the promotion of 'research in the exact sciences' by more exact and economical methods than are at present possible. It is something of a shock to the layman to find in the letters that certain eminent scientists have written in regard to Dr. Newcomb's plan, frank admissions of the inaccuracy and irrelevancy of much scientific investigation. The weeding out of the irrelevant and the correction of the inaccurate is a work concerning the satisfactory accomplishment of which some of the eminent critics are very dubious. Prof. Karl Pearson especially points out the difficulties of generalizing from the facts gathered by routine investigators. At the same time the wide-viewed generalizer can too seldom be depended on as a safe assembler of facts. This condition creates the real problem of science—which is not merely how to gather facts, but how to make them useful."

Medical Corruption.—We have to deal with graft in the medical profession and let us see to it that it is even more energetically dealt with than is being done with graft in public life. The surgeons and specialists in high places who indulge in graft by offering other physicians bribes in the form of commissions for patients sent to them, as well as physicians who accept these bribes, should be exposed and denounced by the honest men of the profession. The grafters who write high sounding but meaningless praises of secret nostrums, the manufacturers of which promise returns, are also deserving of our serious attention. The man who advertises his operations and practice by newspaper interviews on the faintest pretext or on no pretext at all, is guilty of graft, and no effort should be spared to show him the evil of his ways, or to expose him. The medical hypocrite whose religion may be covered by a postage stamp but whose character is still smaller than his religion, exercises graft when he works the church for practice to the disadvantage of his more scrupulous and less grafty brother. The cheap medical college whose only excuse for existence is the advertisement of its faculty, and which has nothing of value to offer to the student but the promise of an easy and shortened course, and farcical examinations, is one of the most pernicious forms of medical graft and one which the profession should discourage at every opportunity. The red-light-machine-made specialist who surrounds himself with senseless but gaudy and impressive machinery for the purpose of catching the support of the unwary general practitioner

and impressing the public, is indulging in a species of graft which has made many of this class successful business men but poor physicians. Most of us recognize graft when we see it, particularly medical graft. Let us carefully label it as opportunity arises and assign it to its proper place, i. e., beyond the pale of professional countenance—in the realm of quackery and charlatanism.—*Wisconsin Medical Recorder.*

State Boards of Registration.

COMING EXAMINATIONS.

Maine Board of Medical Registration, City Building, Portland, March 28. Secretary, Wm. J. Maybury, M.D., Saco.

Idaho State Board of Medical Examiners, Boise, April 3. Secretary, Robert L. Nourse, M.D., Halley.

Utah State Board of Medical Examiners, Salt Lake City, April 3. Secretary, R. W. Fisher, M.D., Salt Lake City.

Central District Board of Medical Examiners for the Indian Territory, South McAlester, April 3, 1905. Secretary, B. W. Caldwell, M.D., Hugo.

Board of Medical Examiners of Arizona, Phoenix, April 3-4. Secretary, Ancil Martin, M.D., Phoenix.

Missouri State Board of Health, University Medical College, Kansas City, April 3-5. Secretary, Winn F. Morrow, M.D., Kansas City.

Board of Medical Examiners of Montana, Helena, April 4. Secretary, Wm. C. Riddell, M.D., Helena.

Board of Medical Examiners of the State of California, San Francisco, April 4. Secretary, Charles L. Tisdale, M.D., San Francisco.

Regular Board of Medical Examiners of Georgia, Atlanta, April 4. Secretary, F. D. Patterson, M.D., Cuthbert.

State Board of Medical Examiners of Tennessee, Nashville, Memphis and Knoxville, April 4-5. Secretary, T. J. Happel, Trenton.

Minnesota State Board of Medical Examiners, the Old State Capitol Bldg., St. Paul, April 4-6. Secretary, C. J. Ringnell, M.D., Minneapolis.

Rhode Island State Board of Health, State House, Providence, April 6-7. Secretary, Gardner T. Swarts, M.D., State House, Providence.

State Medical Board of the Arkansas Medical Society, Little Rock, April 11. Secretary, J. P. Runyan, M.D., Little Rock.

State Board of Health of West Virginia, Parkersburg, April 11-13. Secretary, H. A. Barbee, M.D., Point Pleasant.

Board of Medical Examiners of Oregon, Portland, April 11-13. Secretary, Byron E. Miller, M.D., The Dekum, Portland.

Illinois State Board of Health, Great Northern Hotel, Chicago, April 12. Secretary, J. A. Egan, M.D., Springfield.

Board of Medical Supervisors of the District of Columbia, Washington, April 13. Secretary, Wm. C. Woodward, M.D., Washington.

Kansas State Board of Medical Registration and Examination, Kansas City, April 25-26. Secretary, G. F. Johnston, M.D., Lakin.

Illinois January Report.—Dr. J. A. Egan, secretary of the State Board of Health of Illinois, reports the written examination held at Chicago, Jan. 19-21, 1905. The number of subjects examined in was 19; total number of questions asked was 100; percentage required to pass, 75. The total number of persons examined was 45, of whom 34 passed, 5 failed, and certificates of 6 were held pending presentation of diploma. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
American College of Medicine and Surgery, Chicago	(1904)	90
American Med. Miss. Coll., Chicago	(1901) 82, (1904)	84
Barnes Med. Coll., St. Louis	(1904)	79
College of P. and S., Boston	(1901)	77
College of P. and S., Chicago	(1903) 78, 83; (1904)	87, 94
College of P. and S., Minneapolis	(1902)	79
Detroit Coll. of Med	(1897)	80
Harvard University	(1901) 84, (1903)	84
Hering Med. Coll., Chicago	(1904)	79
Illinois Med. Coll	(1904) 86, (1905)	81
Marion Sims-Beaumont	(1904)	75
McGill University, Montreal	(1903)	88, 95
Medical College of Indiana	(1904)	82
Northwestern University	(1904)	87, 90
National Med. Univ., Chicago	(1903) 77, (1904)	76
Rush Med. Coll., (1901) 83, (1904) 90, 87, 87, 82, 86, 92,	87,	89
University of Toronto	(1904)	83
FAILED.		
Coll. of Med. and Surg., Chicago	(1905)	75
College of P. and S., St. Louis	(1904)	52
Jenner Med. Coll., Chicago	(1904)	56
College of P. and S., Keokuk	(1900)	63
University of Wooster, Cleveland	(1882)	72

Washington January Report.—Dr. C. W. Sharples, secretary of the Washington State Medical Examining Board, reports the written examination held at Spokane, January 3-5, 1905. The number of subjects examined in was 16; number of questions asked, 130; percentage required to pass, 75; for graduates of ten years' standing, 70. The total number of persons examined was 81, 64 of whom passed and 17 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
College of P. & S., Baltimore	(1896)	88.9
University of Tennessee	(1889)	70
Jefferson Med. Coll	(1902) 80.5, (1904)	79.8
University of Virginia	(1903)	85.6
Sioux City Med. Coll	(1903)	82.4
Eclectic Med. Institute (Kentucky)	(1900)	77.3
Edinburgh University	(1876) 73.2 (1903)	83.6
University of Pennsylvania	(1903) 90.35, 85.3,	82.2
University Med. Coll., Kansas City	(1903)	77.4
Harvard University	(1893) 79, (1902)	89.5
Buffalo University	(1900)	80.4
Ohio Medical University	(1903)	87.2
University of Iowa	(1903)	78.0
Baltimore Med. Coll	(1903)	75
Coll. of P. and S., Keokuk	(1899)	81.9
University of Michigan (1891) 87.2, (1895) 86.7, 75.3, (1896) 87.5, (1898) 90.5, (1899) 82.7, 90.3, (1902) 84.5, (1903) 82.6, 87.2, (1904) 87.2.		
Rush Medical College	(1890)	76
Paris	(1877) 75, (1900)	76.4
College of P. & S., Cleveland	(1902)	83
Tufts College Med. School	(1902)	79
Cooper Med. Coll	(1904) 77,81,	90.2
University of Leipzig	(1887)	78
Univ. and Bellevue Hosp. Med. Coll	(1904)	87
Washington University, St. Louis	(1902)	80.9
College of P. & S., San Francisco (1901) 71, (1902) 84.7, (1904) 84.5		
University of Minnesota (1897) 80.3, (1900) 76.4, (1902) 83.4, (1903) 85		
College of P. & S., Chicago (1893) 81, (1902) 76.5, (1903) 84, (1904) 75.3, 77.6, 77.7.		
Northwestern University	(1901) 90.5, (1903)	78.4
Northwestern Univ. Woman's Med. Coll.	(1895) 71.2, (1897)	76.4
National University	(1903) 77,	86.9
University of Vermont	(1904)	87.5
Columbia University	(1902)	86
University of Toronto	(1904)	82.3
FAILED.		
College of P. & S., St. Louis	(1892)	57.1
Ensworth Medical College	(1904)	70.7
Louisville Medical College	(1904)	58
Kansas City Medical College	(1898)	65.5
California Medical College	(1902)	71
Detroit College of Medicine	(1898)	60.7
Rush Medical College	(1890)	68
University of Michigan	(1879) 62, (1883)	66.4
Chattanooga Medical College	(1904)	71.6
Physio-Medical Coll. of Indiana	(1893)	64.4
Kentucky School of Medicine	(1882) 39, (1903)	73.5
Maryland Medical College	(1904)	64
Bennett Medical College	(1893)	68
Northwestern University	(1899)	74
University of Iowa	(1880)	59.1

The following questions were asked:

MEDICAL JURISPRUDENCE.

1. In the absence of a magistrate, how would you obtain a dying declaration that would be admissible in court? 2. How would you differentiate between a homicidal and a suicidal death? 3. How would you determine whether or not death was due to the inhalation of illuminating gas? 4. In a robust subject when death is due to violence, how long after death does rigor mortis appear? Give its duration. Give the regular order of its onset and disappearance. 5. How would you determine the identity of a body?

DISEASES OF CHILDREN.

1. Give etiology, symptoms, prognosis and treatment of infantile scorbutus. 2. Diagnose a case of simple acute adenitis and give treatment. 3. Give general directions for the care and treatment of cholera infantum. 4. Give symptoms, prognosis and treatment of thrush. 5. Give general directions for a nurse to follow in a case of scarlet fever. 6. Describe chorea and give treatment for same. 7. Give sequelæ of scarlet fever, measles and diphtheria. 8. Give symptoms, course and duration of capillary bronchitis and give the appropriate treatment for same. 9. Give symptoms, diagnosis and prognosis of cerebrospinal meningitis. 10. Differentiate the eruption of scarlet fever and measles.

OBSTETRICS.

1. Give general hygiene and management of pregnancy. 2. Give the management of normal labor. 3. Discuss nephritis as a complication of pregnancy. 4. Give the management of a breech presentation. What are the dangers to the mother and child? 5. In a face presentation, mento-posterior position, give the mechanism of delivery. 6. Give the management of placenta previa. 7. Give the dangers and treatment of a prolapsus of the cord. 8. Give the causes and treatment of postpartum hemorrhage. 9. Give the causes and treatment of puerperal infection. 10. Give the causes and treatment of mastitis.

PREVENTIVE MEDICINES.

1. During an epidemic of enteric fever, what prophylactic rules would you give your patients? 2. Describe in detail your prophylactic treatment and management of diphtheria occurring in a family where there are several children. How long should such measures be continued? 3. Describe municipal quarantine of a seaport city. 4. What gas is most used in disinfecting a room? Give one method in detail. 5. To what extent should quarantine and other prophylactic measures be carried in tuberculosis?

DISEASES OF WOMEN.

1. Enumerate the various disorders of menstruation. 2. Give the various malpositions of the uterus and your treatment of a retroflexion. 3. Name the more common diseases of the body of the uterus and give your method of treatment for subinvolution. 4. Give the signs, symptoms and diagnosis of ectopic gestation. When would you operate? Why? 5. Name the more common diseases of the ovaries. 6. Give the differential diagnosis between chronic oöphoritis and appendicitis. 7. Give the technic of abdominal hysterectomy. 8. What are the advantages of the vaginal route for entering the abdomen? What are its dangers? 9. Name the diseases of the fallopian tubes. Give the treatment of salpingitis. Give the technic for an operation for pyosalpinx. 10. Briefly describe an operation for complete laceration of the perineum.

HISTOLOGY.

1. Give the histologic difference between voluntary and involuntary muscular fibers. 2. Name the structures, in their order, seen in a cross-section of the septum of the air vesicles. 3. What is the general shape of the cells in the gray matter of the cerebrum? 4. Describe the heart muscle. 5. Describe a uriniferous tubule. 6. Describe a cross-section of a lymph gland. 7. Name the different kinds of epithelial cells found in the stomach. 8. Describe a solitary gland. 9. With what kind of epithelium are the serous membranes lined? 10. How does the wall of the capillary vessel differ from that of the artery?

PHYSIOLOGY.

1. Describe the phenomena of blood clot. 2. What is a protoplasm? 3. Describe vasomotor nerve action on capillaries. 4. What is the function of the bile? 5. What is the function of pancreatic juice? 6. Describe the origin and function of chyle. 7. What are the chief waste products of the body? What are their channels of exit? 8. What is the chief source of body heat? 9. Describe the method of nutrition of the embryo. 10. Describe the features of cutaneous sensation.

MATERIA MEDICA.

1. Name four drugs that raise blood pressure and explain their action. 2. Name four drugs that lower blood pressure and explain their action. 3. Explain the action of digitalis and the nitrites in chronic nephritis. 4. Give dirivation, preparations and the respective dosage of veratrum viride. Explain its action in puerperal convulsions. 5. Name the classifications of cathartics and explain the peculiar action of each class. 6. Define diuretics; diaphoretics. Give an example of each and explain their physiologic action. 7. Give the derivation, uses and the physiologic action of salicylates. 8. Give the physiologic action of arsenic, including its ultimate effect on the tissues. 9. Give the therapeutic effect of quinin, in various doses. 10. Define a tincture, a solid extract, a fluid extract and give their general relative strength.

ECLECTIC MATERIA MEDICA.

1. What is a narcotic? Name six. 2. Define corrosives. Name five. 3. Define a sanative medicine. Wherein does it differ from a poison? 4. What three influences are made in living tissues with sanative vegetable medicines? 5. When would you use aguinonia eufatoria? What are its medical properties? What tissues are influenced by it? 6. What are the indications for: (*a*) anemone pulsatilla, (*b*) anthemis nobilis, (*c*) apocynum, androsemifolium? 7. Give the remedies used in a case of (*a*) lobar pneumonia, (*b*) acute nephritis. 8. (*a*) What agents would you use in tinea circinatus? (*b*) impetigo contagiosa? 9. What are the properties of the following agents: (*a*) aristolochia serpentaria, (*b*) asarum canadense, (*c*) asclepias tuberosa, (*d*) baptisia tinctoria? 10. Name (*a*) five hepatics, (*b*) six cholagogues, (*c*) five aperients, (*d*) five hydragogue cathartics.

HOMEOPATHIC MATERIA MEDICA.

1. Differentiate the headache of aconite, ignatia, bryonia, china. 2. Describe a natrum mur. patient. 3. What are your typhoid-fever remedies and give indications. 4. Give keynote symptoms calling for bell., cham., rhus., puls., ferr., phos. 5. What remedies do you consider indicated in pneumonia? Give indications for remedies named. 6. Give description of typical sulphur patient. 7. Differentiate heart symptoms of digitalis, cactus grand., kalmia. 8. Describe a calc. phos. patient and give keynote symptoms. 9. What are the tissue remedies? 10. Give mental symptoms of ignatia, puls. and stramonium.

DISEASES OF THE EYE AND EAR.

1. What are the symptoms of perforation of the membrana tympani? 2. Give the etiology and treatment of otitis externa diffusa acuta. 3. How is a diagnosis made between deafness due to disease of the middle ear and that resulting from disease of the labyrinth. 4. Give diagnosis and treatment of suppurative keratitis. 5. Give diagnosis and treatment of muco-purulent conjunctivitis. 6. Define amblyopia and mention four varieties. 7. What is the etiology and treatment of mastoiditis? 8. Give causes of atrophy of the optic nerve. 9. Give causes, prognosis and treatment of retinal hemorrhage. 10. How is the internal ear affected by syphilis?

SURGERY.

1. Give the treatment of a fracture of the femur three inches above the condyles. 2. Give the symptoms of stone in the bladder. 3. What inherent conditions would contraindicate an operation for carcinoma of the breast? 4. Describe in detail the preparation of a surgeon's person in order to secure the best asepsis. 5. Make a diagnosis of popliteal aneurism, and give the treatment of the same. 6. Make a differential diagnosis between appendicitis and empyema of the gall bladder. 7. Give in detail the proper treatment of a shock after a severe surgical operation. 8. Give the symptoms, diagnosis and treatment of tuberculosis of the kidney. 9. Give the symptoms and treatment of obstruction of the bowels. 10. Give the etiology, symptomatology, diagnosis, prognosis and treatment of coxalgia.

NERVOUS DISEASES.

1. Give symptoms of acute ascending paralysis. 2. What is Bell's palsy? 3. Give symptoms of compression of the spinal cord at the fourth dorsal vertebra. 4. Give symptoms of general paresis. 5. Give an outline of treatment of epilepsy. 6. Describe writers' cramp. 7. What is acromegaly? 8. What is beriberi? 9. What is caisson disease? Give its symptoms, course and prognosis. 10. Give two trophic changes of locomotor ataxia.

CHEMISTRY.

1. Name and give a formula for five acids used in medicine. 2. A specimen of urine shows specific gravity of 1022 and is neutral in reaction. On boiling, a white precipitate forms. To what substances may this be due? Give method of differentiating. 3. Name two chlorids of mercury. Give chemical formulæ and properties of each. 4. What is the chemical antidote for arsenical poisoning and its mode of quick preparation? 5. What elements compose the halogen group? Give symbol and valence of each. 6. Define (*a*) atom, (*b*) atomic weight, (*c*) molecule, (*d*) monad, (*e*) tetrad. 7. What salt of silver is most commonly used in medicine? Give formula. 8. Describe Trommer's sugar test. What chemical change takes place? 9. Could you use nitrate of silver in a normal saline solution? If not, why? 10. Give a practical test for (*a*) iodin, (*b*) copper, (*c*) arsenic.

ANATOMY.

1. How many bones compose the human skeleton? Into what groups are they divided? 2. Describe the sternum and the femur. 3. Name the bones of the wrist and their articulations. 4. Describe the ligaments of the shoulder joint. 5. Name the muscles of the forearm. Into what groups are they divided according to function? Name the muscles in each group. 6. Describe and give the relations of the external carotid artery and name its branches. 7. Name the arteries that form the circle of Willis. 8. Describe the origin, course, ganglionic connections, exit and distribution of the fifth cranial nerve, and give its common name. 9. In an amputation of the thigh at the middle third, give the structures you would divide anterio-posteriorly, and the same of the forearm. 10. Name and locate the abdominal viscera.

PRACTICE OF MEDICINE.

1. What means would you employ in the diagnosis of disease of the lungs, stomach and kidney? 2. Outline the normal liver. 3. Define a macule, papule, vesicle and bleb. Name two diseases in which each one is of diagnostic importance. 4. Give the topography of the thorax. Outline the lungs and their lobes. 5. Give the etiology, symptoms, physical signs, course and duration and prognosis of pulmonary emphysema. 6. Give etiology, differential diagnosis and dietetic treatment of gastric ulcer. 7. Give the diagnosis, course, duration and prognosis of chronic interstitial nephritis. In what class of individuals is it most frequently met? 8. Give the etiology, pathology, complications and prognosis of true dysentery. 9. Give etiology, course, symptoms and geographical distribution of yellow fever. 10. Locate the mitral and aortic valves. Give the differential diagnosis between a regurgitant murmur in each.

Association News.

THE PORTLAND SESSION.

Trip to Alaska.

The chairman of the local Committee of Arrangements, Dr. Kenneth A. J. Mackenzie, Portland, Ore., desires to hear from those who propose taking the trip to Alaska after the Portland session of the American Medical Association. It must be understood that a boat can not be chartered nor arrangements made for such a trip as this on short notice. It is, therefore, absolutely necessary that if a special boat is to be secured, it must be arranged for some time in advance, hence it is necessary to know how many desire to go. The round-trip fare from Tacoma or Seattle on the regular express steamers, calling at Southeastern Alaska ports, which include Ketchikan, Wrangel, Douglas Island, Treadwell, Juneau, Skagway and Sitka, is $70. This includes berth and meals on first-class steamers. The fare from Portland to Tacoma is $4.35, and from Portland to Seattle is $5.60, one way. The best starting point is Tacoma, because the trip between Tacoma and Seattle is the grandest part of Puget Sound waters. A trip such as the one contemplated will be a most interesting one. The company will be select and the time of year most propitious. If any of our readers are thinking of taking this trip they should write at once to Dr. Mackenzie.

Trips to the Hawaiian Islands and to the Orient.

As before announced, arrangements are in contemplation for a trip to Honolulu. It is not probable that a sufficient number can be secured to warrant engaging a special steamer, but a party of fifty can secure reduced rates. As we go to press, we are in receipt of a letter from Dr. Mackenzie announcing that the Pacific Mail Steamship Company will carry fifty excursionists to Honolulu at a round-trip rate of $110 each. The fine steamer *Korea*, said to be equal in all respects to the finest transatlantic steamers, will leave San Francisco July 22, a convenient day for sailing. In view of transpacific travel which must be accommodated, the company limits the number in this party to fifty. On this same steamer the round-

trip rate to Yokohama will be $240; Hong Kong, $270, provided a party of not less than twenty make that trip. Reservations should be made early and we urge those who are contemplating these trips to write at once to Dr. Mackenzie.

Yellowstone Park Special.

The special train to Portland, which leaves Chicago in two sections, one June 30 and the other July 1, is filling up rapidly. The number is limited absolutely to 250, and we again urge those who are contemplating joining either of these parties to write at once and to make their reservations. For information regarding this trip see former issues of THE JOURNAL.

Hotel Arrangements.

We are asked to announce that the Committee of Arrangements is prepared to provide good accommodations for all who attend the Portland session, if applications are made in time. Those who are sure of going to Portland should reserve rooms at once. The chairman of the Committee on Hotels is Mr. H. C. Bowers, Portland, Ore.

To Portland from Nashville.

Dr. G. C. Savage, Nashville, Tenn., desires us to announce that he is arranging for a special car from Nashville to Portland, via St. Louis, Denver and Salt Lake City, to leave July 4, arriving at Portland on the morning of July 10. There will be stopovers in Colorado and at Salt Lake City. The return trip will be made via the Yellowstone Park and St. Paul.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending March 11, 1905:

Hoff, John Van R., asst.-surgeon general, granted thirty days' leave of absence.

Jones, Percy L., asst.-surgeon, reports for temporary duty at Washington Barracks, D. C.

Shillock, Paul, surgeon, granted one month and fifteen days' leave of absence about March 10, 1905.

Dean, Elmer A., asst.-surgeon, left Fort Riley, Kan., on ten days' leave of absence.

Porter, R. S., asst.-surgeon, left Fort Niobrara, Neb., on ten days' leave of absence.

Reno, William W., asst.-surgeon, left Fort Myer, Va., for temporary duty as surgeon on the transport *Sumner*.

DeLoffre, Sam'l M., asst.-surgeon, granted thirty days' leave of absence from date.

Morse, A. W., asst.-surgeon, granted thirty days' leave of absence about February 27.

Thorp, Charles W., contract surgeon, ordered from Fort Ethan Allen, Vt., to Fort Adams, R. I., for temporary duty.

Kieruiff, H. Newton, contract surgeon, relieved from duty at the Presidio of San Francisco and ordered to duty as surgeon of the transport *Buford*.

Wythe, Stephen, contract surgeon, relieved from duty at Fort Baker, Cal., and ordered to temporary duty at the Depot of Recruits and Casuals, Angel Island, Cal.

Clayton, George R., contract surgeon, ordered to accompany troops from Columbus Barracks, Ohio, to Fort Sheridan, Ill.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending March 11, 1905:

Benton, F. L., P. A. surgeon, ordered to the Naval Recruiting Station, Philadelphia.

DeLaney, C. H., P. A. surgeon, detached from the *Petrel* and ordered to the *Marblehead*.

Kerr, D. B., P. A. surgeon, detached from the *Buffalo* and ordered to the *Boston*.

Manchester, J. D., asst.-surgeon, detached from the *Marblehead* and ordered to the *Petrel*.

Miller, J., Jr., asst.-surgeon, detached from the *Boston* and ordered to the *Buffalo*.

Cooke, G. H., medical director, retired, detached from the Naval Recruiting Station, Philadelphia, etc., and ordered home.

Rodman, S. S., P. A. surgeon, detached from the *Pensacola* and ordered to the *Ranger*.

Bachmann, R. A., asst.-surgeon, detached from the *Wilmington* and ordered to the *Villalobus*.

Michels, R. H., asst.-surgeon, detached from the *Villalobus* and ordered to the *Wilmington*.

Public Health and Marine-Hospital Service.

List of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending March 8, 1905:

Grubbs, S. B., P. A. surgeon, granted leave of absence for two days from March 7.

Billings, W. C., P. A. surgeon, granted leave of absence for fourteen days from March 3.

McLaughlin, A. J., asst.-surgeon, granted leave of absence for six days from March 6.

Francis, Edward, asst.-surgeon, granted leave of absence for seven days from March 6, under Paragraph 191 of the Regulations.

Keatley, H. W., A. A. surgeon, granted leave of absence for four days from March 1, under Paragraph 210 of the Regulations.

Lopez, Esteban, A. A. surgeon, granted leave of absence for thirty days from January 1 and five days from January 31 on account of sickness.

Rossello, M. M., A. A. surgeon, granted leave of absence for seven days from February 18, under Paragraph 210 of the Regulations.

Stevenson, J. W., A. A. surgeon, leave of absence for seven days from February 27 revoked.

Achenbach, John, pharmacist, granted leave of absence for three days from February 26, under Paragraph 210 of the Regulations.

BOARDS CONVENED.

Board convened at Washington, D. C., March 10, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Asst.-surgeon General G. T. Vaughan, chairman; Asst.-surgeon H. McG. Robertson, recorder.

Board to meet at San Francisco, April 3, for the examination of asst.-surgeons to determine their fitness for promotion to the grade of P. A. surgeon. Detail for the board: P. A. Surgeon Rupert Blue, chairman; P. A. Surgeon H. S. Cumming; P. A. Surgeon D. H. Currie, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended March 10, 1905:

SMALLPOX—UNITED STATES.

California: Feb. 18-25, Los Angeles, 2 cases; San Francisco, 2 cases.
Florida: Jacksonville, Feb. 25-March 4, 1 case.
Illinois: Chicago, Feb. 25-March 4, 16 cases, 3 deaths.
Indiana. Hammond, Feb. 21-28, 1 case.
Kentucky: Louisville, Feb. 23-March 2, 2 cases.
Louisiana: New Orleans, Feb. 25-March 4, 6 cases, 4 imported.
Michigan: Detroit, Feb. 25-March 4, 2 cases; at 74 localities, Feb. 11-18, present.
Missouri: St. Louis, Feb. 25-March 4, 47 cases, 2 deaths.
Nebraska: Omaha, Feb. 25-March 4, 2 cases.
New York: Mount Vernon, Feb. 25-March 4, 1 case.
Ohio: Toledo, Feb. 25-March 4, 3 cases.
Tennessee: Feb. 25-March 4, Memphis, 23 cases; Nashville, 6 cases.
West Virginia: Wheeling, Feb. 25-March 4, 1 case.
Wisconsin: Milwaukee, Feb. 11-25, 21 cases.

SMALLPOX—FOREIGN.

Bosnia and Herzegovina, Dec. 1-31, 17 cases, 2 deaths.
France: Paris, Feb. 11-18, 8 cases, 2 deaths; Nantes, Feb. 8-22, 19 cases, 7 deaths.
Great Britain: Feb. 11-18, Leeds, 9 cases; Leith, 3 cases; London, 3 cases; Newcastle-on-Tyne, 5 cases; Nottingham, 1 case; South Shields, 2 cases.
India: Bombay, Jan. 31-Feb. 7, 122 deaths; Karachi, Jan. 29-Feb. 5, 7 cases, 2 deaths; Madras, Jan. 28-Feb. 3, 1 death.
Italy: Feb. 9-16, Lecce, 34 cases; Treviso Province, 4 cases.
Japan: Feb. 22, Ehime, 26 cases; Fukuoka, 2 cases; Hiroshima, 2 cases; Kumamoto, 1 case; Nagasaki, 2 cases; Osaka, 8 cases; Yamaguchi, 1 case.
Mexico: City of Mexico, Jan. 27-Feb. 11, 4 cases, 6 deaths.
Straits Settlements: Singapore, Jan. 14-21, 1 death.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Jan. 7-28, 5 cases, 1 death.

YELLOW FEVER.

Mexico: Coatzacoalcos, Feb. 11-18, 1 case, 1 death.
Panama: Panama, Jan. 1-Feb. 14, 27 cases, 8 deaths.

CHOLERA.

India: Bombay, Jan. 31-Feb. 7, 1 death.
Russia: Jan. 16-23, Erivan, 1 death; Saratow, 5 cases, 3 deaths.

PLAGUE—INSULAR.

Hawaii: Aiea, March 2, 1 death.

PLAGUE—FOREIGN.

Arabia: Aden, Feb. 4-11, 280 cases, 257 deaths.
India: General, Jan. 21-28, 38,204 cases, 33,087 deaths; Bombay, Jan. 31-Feb. 7, 450 deaths; Calcutta, Jan. 28-Feb. 4, 84 deaths; Karachi, Jan. 29-Feb. 5, 44 cases, 41 deaths.
Russia: Ural Territory, Jan. 3-9, 8 cases, 15 deaths.

Society Proceedings.

COMING MEETINGS.

Missouri Valley Medical Association, Kansas City, March 23-24.
Medical Association of the District of Columbia, Washington, April 4.
Association of American Medical Colleges, Chicago, April 10.
Tennessee State Medical Association, Nashville, April 11.
South Carolina Medical Association, Greenville, April 12.
Medical Association of the State of Alabama, Montgomery, April 18.
Medical Society of the State of California, Riverside, April 18-20.
Florida Medical Association, Jacksonville, April 19.
Medical Association of Georgia, Atlanta, April 19.
Mississippi State Medical Association, Jackson, April 19.
American Medico-Psychological Association, San Antonio, Texas, April 18-21.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Regular Meeting, held Feb. 1, 1905.

The President, Dr. Arthur V. Meigs, in the Chair.

Recent Advances in the Technic of Roentgen Therapy.

DR. CHARLES LESTER LEONARD said that the apparent variation in results is due to variations in technic and the experience of the operator. In addition, varying qualities of Roentgey ray produce different effects and the quality must be adapted to the individual lesion. The physiologic lesion is stimulant and alterative. In large doses it stimulates the autolytic ferments within pathologic cells which results in their dissolution and absorption. The difficulty in administration lies not only in adapting the proper quality of ray and dose to the individual lesion to be treated, but also in the fact that the clinician must know how to produce the dose with a complicated mechanism, and must be able to recognize when the right quality and quantity are being employed by their clinical effects. While any dose and any technic will produce some effects, exact dosage is essential to the efficient employment in difficult cases, and as with all other powerful remedies, clinical experience in adapting the dose to the individual patient counts in the final result.

Treatment of Non-Malignant Diseases by Roentgen Ray.

DR. RUSSELL H. BOGGS of Pittsburg called attention to the necessity of distinguishing between the non-malignant diseases which should and those which should not be treated by the *x*-ray. The method of application of the rays and the judgment of the operator account largely for successful or unsuccessful work. It is just as essential to administer a therapeutic dose when applying the Roentgen rays as it is when prescribing powerful drugs. He considers the *x*-ray one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is not necessary, in many instances, to treat the trivial and less obstinate cases by this method, since cures may be effected with other treatment causing less inconvenience to the patient. For the treatment of lupus he regards the *x*-ray, supplemented by the Finsen light, the most efficient therapeutic agent. He also considers the *x*-ray the most efficient treatment for tubercular glands, Hodgkin's disease and selected cases of goiter.

X-Ray Treatment of Malignant Growths.

DR. ENION G. WILLIAMS of Richmond, Va., said that the results of the practical use of the ray as reported by the different operators have differed greatly; that the general profession had been misled by the over-enthusiastic as well as by the pessimistic operators, so that the true value of the ray has yet to be found out. To determine the therapeutic value of the ray Dr. Williams said it was necessary to consider, first, the factors concerned in the production and variation of the *x*-ray and the methods of its application in treatment; second, the histologic changes due to the *x*-ray, and third, the nature and location of the growth to be treated. The tissues most influenced by the ray are those having a large proportion of cells whose vital processes are very active, such tissues as are found in malignant tumors, carcinomas and sarcomas. Benign tumors, composed largely of intercellular substance with a small proportion of cells not actively proliferating, are, therefore, only slightly or not at all influenced by the ray. He concludes that the prognosis depends on the character of the growths and on their accessibility to the proper quantity of radiant energy. He believes that the ray is indicated in superficial growths. For deep growths, until there can be shown more uniformly good results, radical surgical procedures should be recommended, to be followed by sufficient *x*-ray exposure to destroy malignant cells several inches from the surface. Inoperable cases should be rayed, because of relief of pain and other results which have been noted.

DISCUSSION.

DR. GEORGE C. JOHNSTON attributed many of the claims put forth to over-enthusiasm and inexperience. On the other hand, there is a mass of evidence put forth by some of the best men of the profession which is worthy of acceptance. Success or failure in the application of the agent depends on the dose, and the dose of the *x*-ray is composed of several factors: 1. The length of time the agent is allowed to act. 2. The distance from the source of the ray to the patient. 3. The degree of vacuum of the tube emitting the ray. The third factor is incapable of any accurate measurement short of actual observation of the radiation itself. Another factor in dosage is penetration, and this must be adapted to the depth it is desired to reach. Since some tubes produce a burn easily, Dr. Johnston advises beginners to test every tube in radiographic work before using it on a patient. In radiographic work the *x*-ray man must have a certain technic, with every detail of which he must be familiar. In radiotherapeutic work he must have a technic more exact and capable of immediate variation to suit individual cases.

Dr. Johnston's position is that the legitimate *x*-ray man does not consider himself the successor of the surgeon, but is proud to be accorded the position of assistant, believing that he has at his command an agent which will afford the surgeon better results in his malignant cases. Thorough postoperative radiation by a qualified *x*-ray operator is frequently effective in removing possible foci of disease.

The future of malignancy, Dr. Johnston believes, depends on the general practitioner, because he sees the cases first. Each month he has more of the early cases of cancer, as cancer of the breast, sent to him for treatment. His recommendation in such cases is a Halsted operation and radiotherapy to prevent recurrence. Cases apparently cured by this method have remained so, but he prefers to call them cases of inhibition, more or less permanent, with the hope that they will remain permanent.

The need of *x*-ray workers is the co-operation of the surgeons and pathologists. As soon as all work together in harmony malignancy and other diseases will present a brighter future.

DR. JOHN B. SHOBER has seen mostly the cases of malignant disease in women, and in six or seven cases of inoperable carcinoma of the cervix he has noted the inhibitory action of the agent. In one case, following hysterectomy for carcinoma of the uterus, treated by the *x*-ray and radium, the growth, which was the size of an English walnut, disappeared in the course of ten weeks, and there was no sign of recurrence. In a case of carcinoma of the breast, the growth increased in size, but softened, then diminished in size, and there ultimately remained no sign of the tumor except a small induration, possibly the result of an accumulation of fibrous tissue.

DR. GEORGE ERETY SHOEMAKER believes that after the surgeon's work is finished he owes the duty to his patient of having the *x*-ray applied for a definite time. From his own experience with cancer of the uterus he would advise, first the cautery, after that surgical excision of the part, including the cautery scar, and finally the *x*-ray.

DR. W. S. NEWCOMET referred to the value of the *x*-ray as evidenced in desperate cases which react and get well. He cited a case of trachoma in a girl of 16 which had existed since the age of three months. She had been able to count fingers only in the light. As the result of the *x*-ray treatment she can now see a distance of two or three squares.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held Jan. 24, 1905.

The President, Dr. Dudley Tait, in the Chair.

Acute Hodgkin's Disease.

DR. GEORGE BLUMER reported a case presenting the clinical picture of acute Hodgkin's disease. The patient, a young man, 19 years old, with negative history, had had an accident three months before. The disease began with progressive weakness, nausea, vomiting and dyspnea; some fever in the evening, with night sweats. In three months the patient lost thirty pounds

in weight. A few days before death he suffered from some pain in the liver. On examination he showed general enlargement of the lymph glands, especially those of the neck, and enlargement of the spleen and liver. The heart and urine appeared to be normal. The blood showed 3,656,000 red corpuscles, 8,000 leucocytes and 54 per cent. of hemoglobin. A differential count showed 8 per cent. of polymorphonuclear leucocytes and 92 per cent. of mononuclear forms, which were divided into 45 per cent. of large cells and 47 per cent. of small cells.

At autopsy the lymph glands, tonsils, spleen and liver were found to be enlarged. The lymph glands contained none of the large cells described by Reed as characteristic of Hodgkin's disease and no eosinophilic cells. The lymph follicles of the spleen were especially enlarged. The kidneys were densely infiltrated with round cells. The bone marrow, though presenting no macroscopic changes, showed on microscopic examination a lymphoid hyperplasia.

Clinically the patient presented the picture of an acute Hodgkin's disease, with the exception that the mononuclear cells in the blood were relatively very much in excess, whereas in true Hodgkin's disease no such increase should occur. Pathologically, however, the case is one of lymphatic leukemia, as shown by the changes in the bone marrow and other organs, a so-called "aleukemic leukemia."

DISCUSSION.

DR. WILLIAM OPHÜLS doubted if it is possible to separate Hodgkin's disease as sharply as Reed and others have tried to do. In a recent case he saw the typical changes described by Reed in the lymph glands, and yet there was a round-cell sarcoma of the thymus gland, which was invading neighboring structures.

DR. P. K. BROWN referred to a dog whose lymphatic glands gradually increased in size. At first the number of leucocytes was not increased, but just before death a considerable increase took place.

DR. WILLIAM OPHÜLS examined specimens from this dog and found that they presented the changes of leukemia rather than those of Hodgkin's disease.

DR. BLUMER stated that the dog apparently showed a similar condition to that of his patient, only that the former's leucocytes had increased before death, whereas the patient's had not. Possibly a differential count made in the early stages would have shown that the dog had had a leukemia.

DR. DUDLEY TAIT showed a patient on whom he had operated about seven years before for adenocarcinoma of the breast by the Willy Meyer operation.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Thursday, Jan. 5, 1905.

The President, Dr. Richard C. Norris, in the Chair.

A Consideration of Fibroid Tumors of the Uterus Based on a Series of Cases Treated Surgically.

DR. J. CLARENCE WEBSTER, Chicago, found the following degeneration in 52 of 210 cases of fibromyoma of the uterus: Calcareous, 2 cases; cystic, 13 cases; edematous, 6 cases; myomatous, 4 cases; suppurating, 10 cases; adenocarcinoma of cervix, 1 case; sarcoma, 2 cases; hemorrhagic, 3 cases; necrosis, 11 cases. Pelvic complications were noted in 164 cases, as follows: Broad ligament development, 11 cases; prolapsus uteri, 7 cases; retroversion of the uterus, 11 cases; hematosalpinx, 6 cases; ovarian cystomata, 12 cases; unilateral salpingo-ovaritis, 7 cases; bilateral salpingo-ovaritis, 42 cases; unilateral ovaritis, 3 cases; bilateral ovaritis, 29 cases; hernia, 4 cases; appendicitis, 26 cases; pregnancy, 6 cases. In 99 instances there were pathologic changes in the tubes and ovaries. The association of malignancy was noted only in two cases. In 2 there was sarcoma of the corpus uteri, involving the fibroid growth; in a third, early adenocarcinoma of the cervix was present. Cardiovascular symptoms were present in about 25 per cent. of the cases.

A question of considerable interest is that relating to the influence which may be exerted by products of the uterine growth on the heart, kidneys, and other organs through the medium of the circulation. Cardiac hypertrophy may sometimes result when the tumor is only of moderate size. Renal disturbances are more common in association with fibroids than is generally believed. In about 30 per cent. of the cases there was noted one or more of the following conditions: Deficient amount of urine or urea; albumin; casts; edema of the feet. In no instance was there evidence of previous organic renal disease, nor did treatment fail to bring about marked improvement prior to operation.

Taking into consideration the pressure effects, the tumor degenerations, the pelvic and abdominal complications, the changes in the heart, large vessels, kidneys and liver, the chronic anemia of hemorrhagic cases, and other occasional associations, e. g., suppuration, gangrene, peritonitis, phlebitis, embolism, the influence of pregnancy and labor, the new growth must be considered as seriously increasing morbidity and mortality in women in whom they occur.

The view held by some that all fibroids of the uterus should be removed surgically unless there is some marked contraindication to operation is not upheld. All large or growing tumors or small ones which cause troublesome or serious symptoms should be treated surgically. In attempting to establish indications for surgical treatment various factors must be considered. Thus the site of the growth may indicate early removal of a tumor, e. g., a submucous polypoidal fibroid, a cervical growth, one developing extraperitoneally, a subperitoneal tumor tending to fall within the pelvic cavity, etc. The nature of the tumor may afford an indication, e. g., rapid growth, cystic change, necrobiosis or infection, malignancy, association with pregnancy. One pedunculated subserous tumor, by falling below the pelvic brim, may cause serious pressure symptoms which might never be found with multiple sessile growths. Fibroids should never be allowed to reach a large size, that is, to become palpable abdominal swellings. The nature of the associated complications may often afford the indication for surgical measures.

In regard to the choice of surgical procedure, ligation of the uterine arteries has scarcely any place in treatment. Removal of the uterine appendages should only be carried out in the rare cases in which other procedures are inadvisable, on account of the patient's general condition, or when the relationships of the tumor make removal impossible. Myomectomy has been less practiced than it should have been in recent years, owing to the brilliant results obtained in the reduction of the death rate following total extirpation and supravaginal amputation of the uterus. The conservative procedure was carried out by the author 48 times in the 210 cases. Supravaginal amputation has been practiced in preference to total extirpation as a routine operation, because it may usually be performed in a somewhat shorter time. There is less hemorrhage, the anatomic relationships of the pelvic floor are better preserved, and there is less risk of wounding the ureters. In the occasional association of fibromyoma and malignant disease, total extirpation of the whole uterus is the most scientific procedure.

DISCUSSION.

DR. ELLICE MCDONALD of Albany considers the subject of fibroids to be still a very open question. A certain percentage of fibroids are prone to degenerate into sarcoma. He does not believe the question entirely settled, whether a fibroid may degenerate directly into a sarcoma, or whether the sarcoma is grafted on to the fibroid. The greater number of gynecologists and pathologists are turning to the idea of a fibroid being degenerated directly into a sarcoma. This is of great importance, not only to the gynecologist and pathologist, but to the embryologist. The embryologist will finally accept the idea though it is contrary to all his theories. While carcinoma of the cervix is not more common in fibroid than in the ordinary run of cases, it seems that adenocarcinoma of the fundus is a little more common in diseased conditions of the fundus or with multiple fibroids than in the ordinary run of cases. Tubal complications are one of the most important in regard to fibroids,

because on the presence or absence of these complications must depend choice of operation. If it is true the ovaries are diseased in a great number of these cases, if cystic degeneration of the ovary is more common in fibroid disease of the uterus than in other tumors, it is a question whether the ovaries should be left with the presence of cystic disease eradicated. One of the most important studies is for someone to give some true idea of the conditions of the surgical menopause.

In regard to the question of cardiovascular disease, his findings in 14 postmortems corresponded with Dr. Webster's, but in three cases there was cardiovascular disease associated with a fibroid disease of the uterus; in one case aortic valvular disease; in one case brown atrophy of the heart, and in the third there was mitral disease.

The question of the predisposition of the various races should form the basis of all studies of fibroids, because before the study of the mortality and morbidity is undertaken there should be some knowledge of the percentage of occurrence. He has found from postmortem records, mainly in women of Dutch extraction, that one woman in every seven in the upper part of the state of New York had a fibroid. The well-known predisposition of the negro race to fibroids is borne out by experience. At the Lying-in Hospital in the City of New York, in 2,570 cases, fibroids were found thirteen times, less than one-half of one per cent. In 3 of these 13 cases there was postmortem hemorrhage. The fibroids were all of the interstitial variety; in two cases the uterus contracted well, but in one case there was alarming hemorrhage. In three cases radical extraction of the membrane was necessary, and immediate packing. In three cases there was malposition of the uterus, two of which were curetted. In five cases there were some pathologic lesions of the placenta. In all cases in which there was some alteration in the placenta it was adherent to the fibroid. There was a large area of necrosis, which seemed in one case to be a calcareous degeneration of the placenta, but in consideration of the frequency with which this occurs, he thinks the fibroid had nothing to do with it. Of the thirteen cases of fibroids, only one came to cesarean section. He notes that in obstetrical cases there is this tendency to postpartum hemorrhage in all fibroids situated in the uterine wall. He cited one case of pedunculated fibroid which aborted at three months. In regard to the danger of doing myomectomy in the presence of disease of the tubes or kidneys, he thinks one must look not only on direct disease of the tubes when pus is present, but on disease of the tubes of any sort as being potential sites of infection.

DR. REUBEN PETERSON of Ann Arbor said that in approximately 80 recent cases his proportion of malignancy was greater than that of Dr. Webster. There were two cases of sarcoma and one of adenocarcinoma. He advised the microscopic examination of every bit of tissue. He cited a case in which malignancy was overlooked from lack of such examination.

Dr. Peterson's proportion of cases of degeneration of fibroids is not as great as that shown by Dr. Webster and Dr. Noble. From the fact that degenerations do occur, that there is malignancy and cardiac change, he is more inclined than formerly to advise operation.

DR. E. E. MONTGOMERY thought it obvious that the mere presence of a fibroid growth would of itself tend toward the development of malignant disease. In view of the frequency with which fibroid growths occur, it does not seem to him that the proportion of malignant infection is sufficiently great to assume that the growth is an essential feature in its development. The contraction which takes place in fibroid tissue leads to atrophy and arrest of its circulation, tending to the development of edema. This edema occurs, not only in cases in which strangulation has taken place as the result of the twisting of the pedicle of a subserous fibroid, but also in growths in which there is a tendency to degeneration of the arteries, shown in associated ovarian hematoma. He is inclined to think that the disease of the heart and other organs is more frequently found in cases in which the fibroid is of the submucous or interstitial form, where the tendency to hemorrhage is marked. A fibroid occupying its position in the pelvis and attaining to any size must affect the kidneys by pressure on the ureters.

Dr. Montgomery agreed with the author that it is difficult to fix a rule for the time of operation. The mere presence of a fibroid growth of the subperitoneal variety is not an indication for operation, but increase of the size of the growth, disturbance of circulation and degenerative changes warrant operation.

While he has performed the operation of ligation of the arteries for the control of the growth of the tumor, he has never regarded it favorably from a theoretical standpoint. With the cutting off of the blood supply sufficient to limit the growth there is danger of arrest of circulation with resultant necrotic change in the tumor. The operation of myomectomy appeals to him in women under thirty in whom it seems undesirable to bring about the cessation of the sexual function. It is readily understood that a more stormy convalescence from this operation is expected from the fact that in the enucleation of a number of single fibroid growths from the uterine wall there is a large amount of tissue of low vitality which is readily infected, and an accumulation of blood in dead spaces from which the patient runs an increased danger.

In performing hysterectomy Dr. Montgomery has for the last four years preferred panhysterectomy to the supravaginal operation, because in an occasional case cancer involves the cervix, and in some cases there has been injury to the cervix. There is a better drainage and less likelihood of elevation of temperature, and the convalescence of the patient is more satisfactory in the presence of the complete operation.

DR. BARTON COOKE HIRST referred to his record of 189 fibroid tumors treated by some form of surgical procedure. Twenty-seven per cent. were treated by myomectomy; 60 per cent. by hysterectomy. Vaginal enucleation, oöphorectomy and ligation of the uterine arteries made up the remaining 13 per cent. He has seen the following degenerations: 3 sarcomatous, 5 cystic, 4 necrotic, 2 myomatous and 1 calcareous. In about 50 per cent. there was some pathologic condition of the tubes and ovaries, usually in the shape of old adhesions; occasionally a hydrosalpinx, and very rarely a pyosalpinx, not in 2 per cent. of the cases. There was an associated adenocarcinoma of the corpus in one case. He has found electricity the most useful palliative treatment of hemorrhage for the time being in fibroid tumors, but never has seen a tumor reduced in size or the condition benefited in any other way by this agent. With the positive pole of a galvanic current in the uterine cavity, 40-60 milliamperes checks hemorrhage in suitable cases more surely than any other means he has tried. Some cases may require nothing else, if the tumor is small in size, is not growing, shows no signs of degeneration or inflammatory complications, is not causing pressure symptoms and exerts no deleterious influence on the general health.

DR. CHARLES P. NOBLE thought the chief point for discussion was whether fibroids should be treated from the standpoint of symptoms or from that of life-history of these growths. He believes that in the future they will be treated from the latter, just as ovarian growths are studied, rather than from the standpoint of symptomatology. He thought it a remarkable fact that in 210 cases there was not a single case of adenocarcinoma of the corpus uteri. He regards fibroid tumor of the uterus a predisposing cause of adenocarcinoma of the corpus uteri. The complications in the appendages were much greater in number in Dr. Webster's cases than his own.

In reference to the total extirpation of the uterus versus supravaginal extirpation, out of approximated 700 hysterectomies, so far as he knows, there have been two cases of carcinoma of the cervix following supravaginal amputation of the uterus. In one case the condition was doubtless overlooked at the time of operation, as carcinoma of the pelvis developed promptly. In the other case, a supravaginal amputation for inflammatory disease, epithelioma of the cervix developed four or five years later. He has had but one death following myomectomy, and that in a case of sloughing fibroid removed per vaginam, but he attributes his good results to care in the selection of patients. He has had a number of patients bear children after myomectomy. His hysterectomy patients have not

been especially troubled with the menopause symptoms; nor has he seen any difference in sequel, whether the ovaries have been removed or left behind. In a large percentage of the cases the troublesome symptoms are greatly exaggerated.

DR. JOHN G. CLARK spoke on the three following points: (1) the possibility, after a supravaginal hysterectomy, of a malignant involvement of the remaining stump; 2, the benefits of leaving the ovaries behind in cases of fibroid tumors; (3) the effect of fibroid tumors in the production of cardiac disease. Relative to the first point, he said that a supravaginal amputation of the uterus is much easier, and in the end gives more satisfactory results than panhysterectomy. On the other hand, the objection to the partial operation because of the dangers of a malignant degeneration in the cervical stump or the recurrence of carcinoma is a strong one, but will be obviated by a thorough cauterization of the cervical canal either with the Paquelin or electric cautery. This leaves only the rim of the cervix behind, but does not break the attachment of the broad ligament on either side. Concerning the second point, for ten years he has followed the fixed policy of leaving behind the ovaries in every case of a fibroid tumor where it was possible, and he has been astonished to find that this can be done in a large proportion of cases. One is justified, even when there are adhesions, in leaving behind all or a portion of one or both ovaries; for in a considerable proportion of those inflammatory cases adhesions are not due to infection, but to traumatism produced by rubbing of the tumor against the ovary or crowding the ovary in against the pelvic wall, or downwards into Douglas' cul-de-sac. If this is relieved by the removal of the tumor the ovary will not subsequently give rise to any serious trouble. So many patients have told him that they were almost free of the distressing sequelæ of which others frequently complain, that he is persuaded that this is the better policy to pursue. Relative to the third point, he is of the opinion that this complication is less frequent in this country than in Germany. The German gynecologists seem to be greatly impressed with the frequency of the so-called "myoma heart," and warn against the dangers of sudden death incident to heart disease following hysterectomy for fibroid tumors. Whether there is a distinct influence exercised by a fibroid tumor in producing heart trouble, he is unable to say, but he can not conceive of any more radical disturbance being caused than that of a heart overworked in pumping blood through the resistant tumor mass. A pulmonary embolus is much more likely to be a sequel of a hysterectomy for fibroid tumor than any other pelvic operation, because the impaction of the tumor in the pelvis or its pressure on the large vessels at the brim of the pelvis is very likely to weaken their walls and cause more or less dilatation. Not only may these vessels be the seat of a thrombus, but the greatly enlarged ovarian and uterine veins may also be the seat of large thrombi, from which emboli may be dislodged and carried to the lungs. Therefore, sudden death following hysterectomy is more frequently due to a pulmonary embolus than to cardiac disease *per se*.

DR. W. EASTERLY ASHTON thinks that every case of fibroid must rest on its own merit, and that in determining the line of treatment each case must be specially studied. There should be taken into consideration: (1) the mortality of major operations on uterine fibroid; (2) the danger of degenerations occurring, and (3) the social condition of the patient.

Considering that the true mortality of hysterectomy is probably from 5 to 8 per cent., it is a serious matter whether or not to advise operation. On the other hand, the social condition of the patient is also to be considered. If a tumor is causing but little trouble, with no pressure symptoms and the patient is in fairly good condition, he does not advise operation, but the patient should be seen frequently, and if the tumor begins to grow, operation should be advised without saying that it is taking on this or that degeneration.

The operation of myomectomy, he believes, has a very limited field, and it is dangerous. He believes if he were to adopt the operation he would have a large mortality, as the spaces are not well filled up and the tissues so bruised that a bad focus for infection is left. Comparing panhysterectomy with supravaginal operation, Dr. Ashton believes that in all cases, except where infection or malignancy exists, the supravaginal operation is the one of selection. Panhysterectomy shortens the vagina, the marital relations are interfered with, and the operation has a higher mortality.

DR. WEBSTER said that he has had occasion to study German statistics of hysterectomy both for fibroids and carcinoma, and he is confident that the mortality reported is very considerably higher than it is in the hands of operators in this country; and the same is true of the mortality of myomectomy in Germany. Myomectomy should not be performed where very large incisions or where much mutilation of the uterus are necessary or where there were many tumors. Taking everything into consideration, he believes that the logical procedure is to do the complete operation in every case and to put out of consideration supravaginal amputation. He is very certain, however, that this procedure will not commend itself to the majority of operators, who will continue to take chances as regards the sequelæ.

The mortality of the major operations in non-infective cases should not be as large as eight or nine per cent. in the hands of expert operators. The percentage has fallen below this figure in this country in the last three or four years, and if Dr. Noble's statistics are correct, the lives of women will be saved by carrying out these operations rather than by leaving the tumors untouched.

Regarding the surgical menopause, the menopause symptoms are no worse after operation than in normal conditions. The phenomena were less marked and the health certainly better in those cases in which abnormal losses of blood were prevented.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Rheumatism.

Molsbury, in an abstract in the *Jour. Mich. State Med. Soc.*, recommends in the treatment of acute articular rheumatism that the patients wear flannel and sleep between blankets. The best single article of diet, he says, is milk, which should be diluted with an alkaline mineral water. The pain may be relieved by fixing the joint by wrapping it in cotton or in hot cloths. As a local application to the joint the following is recommended:

℞. Sodii salicylatis
Adipis
Lanolini, āā ..... ℥i 30

M. Sig.: Apply hot twice daily.

Pain may also be relieved by the use of the blister or by a light application of the Pacquelin cautery. The oil of wintergreen is recommended as follows:

℞. Ol. gaultheriæ ..... ℥ss 15

Sig.: Twenty drops in milk every two hours.

Excessive fever should be reduced by baths and the tumultuous action of the heart may be controlled by the application of the icebag, keeping constant attention on the heart. The throat should be carefully inspected and any angina or tonsillitis should receive careful attention. In the chronic form of articular rheumatism iodin in the form of potassium iodid or Lugol's solution is the best remedy and ranking second in order of efficiency the author recommends colchicum, in doses of ten drops of the tincture (.65). He also recommends passive movements of the affected joints with local application of heat and friction. In some cases he advises the intramuscular injection of iodin in sesame oil, using from 15 to 60 minims (1.-4.) of a 25 per cent. solution, injecting it deep into the gluteal region, and repeating it every second day. As a topical application, the following may be employed:

℞ Ol. gaultheriæ .....℥i 30
Alcoholis .....℥iii 90

M. Sig.: To be used locally.

Change of climate, to a warm equable locality, is of great benefit in these chronic forms.

In the gonorrheal form of rheumatism heat, electricity, friction and massage are recommended. In muscular rheumatism the muscle should be put at rest by strapping the chest with adhesive plaster in cases of pleurodynia, and by the application of heat and friction. In the nodular form of rheumatism, arthritis deformans, the pain may be relieved by hydrotherapy and massage. Arsenic is valuable as a tonic. Iron is indicated when anemia is present. Iodin in 10 minim (.65) doses, and potassium iodid or the sodium salt, are entitled to consideration as therapeutic agents, given in milk. Blisters in some cases are of value, and in most cases a change of climate is of great importance.

Measles.

In the treatment of measles according to Bjorkman in *Merck's Archives*, it must be remembered that serious complications may follow the mildest attack of measles. Consequently the patient should always be put to bed and unnecessary exposure should be avoided. The room should be kept at a temperature of 70 F., proper ventilation established, and the brighter rays of light excluded in cases of photophobia. The eyes should be cleansed with proper washes, the nasal and buccal cavities properly irrigated with a 2 per cent. boric acid solution, and gargles should be employed to prevent extension of infection to the ears.

In cases of high temperature accompanied by nervous excitement a cold, wet pack is of value, and for insomnia and for general restlessness and threatening convulsions, a generous dose of the bromids is indicated. In the treatment of the catarrhal condition of the air passage the ammonium salts are used. Other expectorants such as ipecac, scilla or senega may be combined with the ammonium salts. No strong purgative or cathartics should be used in measles, as this disease is sometimes complicated by a stubborn diarrhea. If diarrhea exists, the strictest diet should be observed and measures taken to correct the diarrhea, and, if necessary, a few drops of the tincture of opium may be administered or Dover's powder or bismuth subgallate, which is the least harmful preparation, may be used. The author recommends the following combinations in the treatment of this disease:

℞ Acidi boracici 3i 4
Aquæ rosæ .....℥iv 120

M. Sig.: Use freely as an eye lotion several times a day. This should be slightly warmed before application.

For the bronchitis the following is recommended:

℞ Infusi ipecac (gr. iv to ℥iii) .....℥iii 90
Ammon. carb. .....gr. xxiv 1.65
Ammon. chloridi .....gr. xv 1
Syr. senegæ q. s. ad.....℥iv 120

M. Sig.: One teaspoonful every two or three hours; for a child of four or five years.

For older children the following may be used:

℞ Infusi ipecac (gr. v to ℥iiiss) .....℥iiiss 105
Ext. opii .....gr. ss .03
Liq. ammon. acetatis .....gtt. xxv 1.65
Syr. senegæ q. s. ad.....℥iv 120

M. Sig.: One dessertspoonful every two hours.

For the earache the following combination is of service:

℞ Acidi carbol. .....m. xx .65
Alcoholis .....m. xlv 3
Glycerini q. s. ad.....℥i 30

M. Sig.: A few drops warmed and instilled into the ear.

As an antiseptic to the buccal cavity the following is of service:

℞ Acidi salicylici .....gr. xv 1
Acidi borici .....gr. lxxv 5
Thymol. .....gr. viii .50
Glycerini .....℥v 20
Spts. menth. pip. q. s. ad.....℥iiiss 105

M. Sig.: One teaspoonful in a glass of water as a mouth wash.

Erysipelas.

Mortimer, in *Med. Summary*, recommends as prophylactic measures in the treatment, that the patient be isolated and that all dressings should be burned when removed. He says that proper ventilation should be established and that thorough cleanliness should be observed. In the general management of the patient he recommends small doses of calomel, gr. ⅛ (.008), every two hours for eight doses, followed by a saline. For the first twenty-four hours minim one-fourth (.015) of the tincture of aconite should be given every two hours.

When stimulation is required, alcohol should be administered freely, and, if necessary, strychnia and nitroglycerin. An icebag or cold compresses applied to the head to relieve the pain are of service; in addition the following may be given:

℞ Caffeinæ .....gr. ss .03
Camphor monobrom. .....gr. ss .03
Acetanilidi .....gr. ii .12

M. Ft. cap. No. i. Sig.: One such capsule every two hours.

Applied locally to the affected areas the author recommends compresses saturated with the following:

℞ Tinct. opii .....℥i 30
Liq. plumbi subacet. .....℥ii 60
Aq. destil. .....Oi 500

M. Sig.: To be applied locally on compresses.

Liquid nourishment should be given liberally and systematically about every three hours. It should consist chiefly of milk, broths and beef juice. Ice-cream may be given, and cold water may be given freely and may be acidulated; lemonade may be substituted for the water. During convalescence a general tonic treatment is indicated with some form of iron.

℞ Strych. sulph.
Acidi arsenosi, āā.....gr. 1/50 .0012
Ext. gentianæ .....gr. ss .03
Quin. sulph. .....gr. ii .12

M. Ft. cap. No. i. Sig.: One such capsule after meals; or:

℞ Strych. sulph. .....gr. ¼ .015
Liq. ferri et ammon. acetat. .....℥vi 180

M. Sig.: One tablespoonful in water after meals.

Pruritus.

The following outline of treatment is recommended by *Med. News*, in pruritis: Internally carbolic acid is recommended in one-grain (.06) doses, or the following:

℞ Ammon. valerianatis .....gr. viiss .50

M. Ft. pil. No. i. Sig.: From two to three such pills daily.

Locally the following may be used:

℞ Acidi hydrocyanici .....gr. viiss .50
Hydrarg. bichloridi .....gr. viiss .50
Acidi carbol. 3ii 8
Resorcini 3ii 8
Chloralis hydratis 3iii 12
Pot. bromidi 3iv 15
Aquæ .....Oii 1000

M. Sig.: To be applied locally.

Alcoholic solutions of menthol, resorcin or corrosive sublimate are equally as efficacious. After bathing the parts the following powder should be applied:

℞ Pulv. amyli .....℥iii 90
Bismuthi subnit 3i-vi 4.-24
Acidi salicylici .....gr. xv 1

M. Sig.: To be applied locally; or:

℞ Cocainæ hydrochlor. .....gr. v .30
Menthol.....gr. xlv 3
Liq. petrolati .....℥i 30

M. Ft. unguentum. Sig.: Apply locally.

In cases of genito-perineal pruritus, fissures and excoriations, parasites, discharges, diabetes and albuminuria should be searched for. In vaginal itching the following is recommended:

℞ Cocainæ hydrochlor.
Morph. hydrochlor., āā.....gr. 1/3-1/2 .02-.03
Ol. theobromæ .....gr. xlv 3

M. Ft suppos. No. i. Sig.: One introduced into the vagina night and morning.

Medicolegal.

Insanity of Relatives of Maker of Will.—The First Appellate Division of the Supreme Court of New York says, in the will contest case of Pringle vs. Burroughs, that it is of opinion that, before insanity can be shown to have existed in the membership of a testator's family it must have appeared that to some extent, at least, the testator had suffered from a like affliction. Then, undoubtedly, evidence of the existence of insanity, especially if of a hereditary character, in the ancestors or other relatives of the testator, would be pertinent and competent. Mere feebleness of health produced by disease, however, is not a sufficient basis on which to found the right of inquiry into the mental condition of other relatives.

Entitled to Show Rebreaking of Leg—Value of Services.—The Supreme Court of Kansas holds, in Cudahy Packing Co. vs. Broadbent, a personal injury case brought by the latter party, that, under an allegation in the plaintiff's petition that an injury of which he complained had resulted in bruising, maiming and injuring him, and causing him to become sick and sore, and fracturing his left leg, thereby causing him great bodily pain and mental anguish, proof might be received that eight days after the happening of the accident, and after the leg was first set, it became necessary to rebreak the uniting bones and reset the same, thereby causing the plaintiff pain. The court says that in pleading the character of an injury it is not necessary to give a specific catalogue of every incident or subordinate result flowing therefrom in order to introduce proof of such results, but the pleading of such injury will permit proof of all results which naturally and proximately ensue therefrom. The general rule is that the pleading of an injury inflicted will admit proof of all results which naturally and approximately ensue or may reasonably be expected to result therefrom. The employment of a surgeon to set the broken leg was certainly such a result. That the surgeon might make a mistake in so doing might reasonably be anticipated, as mistakes occur under the manipulation of the most skilful. Even had an unskillful surgeon been employed, without fault on the part of the plaintiff, and a misalignment made by such unskillful surgeon, still the court is of the opinion that the general allegations of the petition would have been sufficient to admit the criticised proof, especially in the absence of any counter allegations in the answer. Furthermore, the court holds that evidence showing in a general way that surgeons and nurses had bestowed considerable time and attention on the plaintiff, without in any manner showing the value of such services, did not alone afford sufficient basis for a verdict for such services. A verdict rendered on such evidence ought to be set aside. It would be the veriest speculation, and entirely unwarranted, to permit a jury to find the value of those services from the statement that such services were rendered, accompanied by something of a detailed statement of their nature and extent. How could the jury, unskilled in such matters, be thereby sufficiently informed as to value to warrant the rendition of a verdict?

What Constitutes "Last Sickness."—The statute of Kansas provides that a verbal will may be made "in the last sickness" of the testator. How should the phrase, "in the last sickness" be construed? The Supreme Court of Kansas says, in the case of Baird vs. Baird, that it must mean that the making of a will must be at some time during the progress of the sickness from which the testator finally dies. If he should recover from the sickness which he had when he spoke the words, the will would be void. The court thinks it equally clear that the term should not be construed to cover a period of long duration, or make valid a will pronounced at a time when the testator was neither in danger of approaching death nor expecting death within a short time. In one view, "in the last sickness" might be construed to mean all of that period during which the deceased was in any way afflicted with the disease which finally terminated fatally, but this construction does not recommend itself, for perhaps, actually considered, the seeds of the fatal disease were carried even from the cradle. In another view, "in the last sickness" may be interpreted as the last end of the fatal sickness, because it is of the augmented force of accumulating disease that finally and lastly the diseased one is removed. The court thinks this latter interpretation equally unreasonable and untenable. For, if this should be adopted, we would be left without any guide whatever. "Last sickness" in this view must mean the last expiring breath, the condition that immediately antedates dissolution—that condition indicated by the term *in extremis* or *in articulo mortis*, or being surprised by sudden death. If this construction be adopted, then the right to make a verbal will is practically denied, for if a testator must wait until he is *in articulo mortis*, then he may have lost testamentary capacity, and when he has lost testamentary capacity he can not make a will. At best, the question of the validity of the will because made too soon, or of testamentary capacity because made too late, would be the occasion of serious conflict in every case. The court can not believe that either of these extreme claims are founded in reason, but rather prefers to hold that the proper interpretation of the statute is that, where the "last sickness" of one has progressed to such a point that the deceased expects death at any time and is liable to die at any time, and in view of its occurrence, and as preparatory thereto, a verbal will is made, and he does thereafter die of such disease, such will is "made in the last sickness."

Liability of Dentist Advising Against Seeing Physician.—The Supreme Court of California says, in Mernin vs. Cory, an action for malpractice against a dentist, that the jury were instructed as follows: "If you find from the evidence that defendant advised plaintiff not to consult a surgeon or secure medical treatment after her jaw was injured by defendant, if you find the same was carelessly and negligently injured by defendant, and that plaintiff relied thereon, and did not consult a physician or surgeon for a number of weeks after such injury, and that by reason of such delay plaintiff's injuries were aggravated and made worse, and that it was more difficult or impossible to treat or cure such injuries of plaintiff, and that thereby such injuries became and are permanent and can not be cured, and the same has affected the general health of plaintiff, and she has become and is sick and disordered and unable to work or perform labor, or support herself by her own labor and work as she did prior to such injuries, if you find that she did so work and support herself before she was injured by defendant—then I instruct you that you may take all such matters into consideration in fixing the damage incurred by plaintiff by such acts." It was contended that this instruction was erroneous, because it was not the duty of the defendant, being merely a dentist and not a general physician or surgeon, to give the kind of advice asked by the plaintiff. But the Supreme Court does not think that this contention was maintainable. It says that while a dentist may be qualified for his profession without being learned in the general science of therapeutics he certainly should have such knowledge of the very bone out of which he extracts a tooth as to enable him to understand whether it had been so injured as to require treatment beyond his skill. As to the contention that the instruction was erroneous because it did not expressly state that the advice was carelessly or unskillfully given the court says that other instructions that were given clearly informed the jury that carelessness or unskillfullness must have attended all the alleged acts of the defendant in order to make him liable, and there was no necessity of repeating them at every part of the instructions. Moreover, if the facts stated showed malpractice, the use of adjectives or adverbs to expressly characterize such malpractice as careless or unskillful would add nothing to the statement. After the alleged acts of malpractice the plaintiff had a "popping" or "clicking" of the jaw—a disagreeable sound made by a movement of the jaw. The defendant offered to call several witnesses to testify that each of them had a clicking jaw. The court does not think that it was error to sustain an objection to the proposed testimony.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

March 4.

1 *Mucous Colic. Robert Coleman Kemp, New York City.
2 New Views of Infant Feeding and Their Practical Application. H. D. Chapin, New York.
3 *Mortality of Pneumonia in High Altitudes. C. F. Kieffer, Fort D. A. Russell, Wyo.
4 Landry's Paralysis, with Report of Case. C. F. Wiley, Syracuse, N. Y.
5 *Case of Puerperal Tetanus with Recovery. J. F. Roderer, Philadelphia.
6 Poisoning by Potassium Bichromate. F. E. Fronczak, Buffalo.
7 City Dust and Patent Medicine Advertisements. R. Hessler, Logansport, Ind.

1. **Mucous Colic.**—Under this title, Kemp discusses the condition commonly referred to as mucous or membranous colitis. He does not believe that neurasthenia *per se* will cause mucous colic any more than it will cause gonorrhea. There must be other factors. Mucous colic probably has as its chief etiologic factor ptosis of the colon with associated gastroptosis. The misplacement of the colon undoubtedly favors circulatory, and hence secretory, changes in the sacculated portion of the colon. Fecal accumulation is also favored—a further cause of irritation. Absorption, with resulting autoinfection and nervous disturbances following the same, can thus readily result. Naturally a patient of nervous temperament may be more markedly affected than others. The treatment may be summarized as follows: During the attack, rest in bed; application of heat to the abdomen by means of flaxseed poultices, turpentine stupes or hot pepper poultices, 4 grams of red pepper to one pint of boiling water—a flannel being wrung out therein, applied to the abdomen and covered with oiled silk. Dry heat, applied by means of a hot-water bag, salt bag, or light tin plate, heated in the oven and covered with flannel, may be employed. Spice poultices are of service. Moist heat, however, seems to afford the most relief. The greatest relief to cramps and bearing down pains is afforded by enteroclysis with normal saline solution at 110 to 120 F., oil of peppermint, .3 c.c. to 1 c.c. to the quart, may be added. Several gallons should be employed once or twice in twenty-four hours, and no fluid should be left in the bowel after irrigation. High enemas of warm olive oil, a pint to a quart, are also of service. Hot saline injections containing from 2 to 4 ounces of milk of asafetida may also be employed. A fluid diet should be enjoined. Tincture of belladonna in doses of 10 drops, every three or four hours, gives the best results in the treatment of the spasm. If the pain is very severe, codein or morphin may be given. If the acute attack is prolonged, the internal administration of the valerianates or of asafetida may prove to be of value. Between attacks apply proper abdominal support, exerting an upward and backward pressure from the symphysis to the umbilicus by mechanical means. For this purpose may be applied a silk elastic abdominal supporter or Rose's adhesive plaster belt. The surface should be shaved or cleaned with alcohol or ether before applying the belt. Every four to six weeks the plaster is removed, the surface cleaned and a fresh plaster applied. Exercise and outdoor life, to strengthen the abdominal muscles, are important. The general nervous system must be toned up and anemia should be corrected. Resort to surgery is rarely required except in the most obstinate cases.

3. **Mortality of Pneumonia.**—Pneumonia, occurring at an elevation of 6,195 feet above the sea level, was studied by Kieffer with a view to ascertaining the effect of altitude on the mortality in this disease. So far as his observations go they seem to show that altitude has very little influence, if any, on the mortality of pneumonia, either to diminish or increase it. During thirty-six years the mortality at Fort Russell has been about 1 per cent. lower than the mortality of the entire army during the same period, the mortality percentages being 14.63 per cent. and 15.61 per cent. respectively.

5. **Puerperal Tetanus.**—In the case reported by Roderer, the first symptoms of tetanus appeared ten days after confinement. During the first four or five days of the disease all the spasms were severe and were accompanied by intense pain. Tetanus antitoxin was administered on 32 different occasions. In all 660 c.c. (132,000,000 immunizing units) were given. The injections were given under the skin of the abdomen and the sides of the thorax. After each injection a change in the character and number of the convulsions could be noticed. The duration of the disease was eighteen days, the patient making a good recovery.

Medical News, New York.

March 4.

8 Equilibrium Between Infection and Immunity as Illustrated in the Tonsillar Crypt. J. Wright, New York.
9 *Multiple Neuritis in Wood Alcohol Poisoning. S. E. Jelliffe, New York.
10 *Appendicitis as a Visceral Manifestation of Erythema Exudativum Multiforme. J. S. Chenoweth, Louisville, Ky.
11 Short and Easy Methods of Arriving at Good Results in Diseases of the Ear and Upper Air Tract, Illustrated by Recent Cases. W. S. Bryant, New York.
12 *Diagnosis of Malaria by the Finding of Pigmented White Corpuscles in Unstained Blood Films. J. R. Clemens, St. Louis.
13 *Psammoma of the Maxillary Sinus. J. C. Munro, Boston.

9. **Multiple Neuritis in Wood Alcohol Poisoning.**—Jelliffe cites two cases of peripheral neuritis resulting from the use of wood alcohol. The first patient began to suffer from severe gastric irritability and marked hyperesthesia in the upper extremities, particularly in both arms and hands. This was followed by incomplete paralysis of the extensors and typical drop-wrist. He also had a mild grade of ptosis and a partial, restricted amblyopia. He recovered after four months' treatment. All other causes of neuritis were eliminated. The man was addicted to the use of what he supposed was tax-free whisky, but on investigation it was found to be a 35 per cent. Columbian spirits whisky, with suitable flavor added. The two other patients were painters, particularly varnishers. They did nothing but shellac work on desks, furniture, etc., and they worked long hours and in comparatively small rooms. The shellacs they used were for the most part dissolved in wood alcohol, and the men were exposed to the evaporating fumes. Both these patients suffered from a hyperesthetic form of the disease. Involvement was also of the upper extremities alone. There were the familiar paresthesiæ in the backs of the hands and in the forearms. The pains were at times severe, and there was intense pain on pressure over the nerve trunks. The joints were involved to a slight extent only. There was distinct motor weakness in both instances.

10. **Appendicitis as a Visceral Manifestation of Erythema Exudativum Multiforme.**—Attention is directed by Chenoweth to the occurrence of appendicitis as a visceral lesion in this form of erythema, and he refers to two cases reported by him eight years ago in which the appendicitis occurred in connection with this disease. The matter of diagnosis is one of grave importance. The attacks of colic, the so-called abdominal crisis of exudative erythema, may easily lead the inexperienced to make a diagnosis of appendicitis when no lesion of that organism exists; on the other hand, a more serious mistake may be made of overlooking the coexisting appendix trouble, unless it is recognized that these vasomotor circulatory disturbances do at times result in congestion of, and even hemorrhage into, the appendix, with the result that there may be bacterial infection and inflammation or actual gangrene of this organ. The diagnosis of appendicitis in these cases must rest on the classical signs, pain, tenderness over the appendix, and localized muscular rigidity. In Chenoweth's experience the abdominal crises of exudative erythema have not been attended by muscular rigidity and localized tenderness, except in those cases in which the appendix was involved. The pathologic condition in the appendix in 4 patients operated on by him was primarily and essentially the same as that taking place in the skin. That the erythema was not secondary to the appendicitis was clear from the fact that previous attacks of erythema had occurred and have occurred at intervals since the removal of the appendix.

12. **Diagnosis of Malaria.**—That the finding of pigmented white corpuscles is absolutely pathognomonic of malaria is attested to by Clemens. He has examined over 500 unstained blood films in which pigmented white cells were found, and says he has never had occasion to regret the diagnosis made in each case—malaria. The finding of these pigmented cells is a far more constant index of malaria than the presence of the plasmodium, because the pigmented cells are found always, irrespective of the time of sporulation or of the action of quinin, whereas the plasmodium is often absent, influenced by quinin and the time at which the blood is taken. The examination of unstained specimens possesses the further advantages of celerity and simplicity of technic and the recognition of unstained pigmented cells is infinitely more easy than that of the plasmodium in stained specimens. He has also found that the pigmented whites are trusty guides in all manner of irregular malarial attacks masquerading under the guise of typhoid, rheumatism, appendicitis, acute diarrheas, gastric crisis, vomiting, etc.

13. **Psammoma of Maxillary Sinus.**—A case of probable psammo-sarcoma of the orbit and antrum of Highmore is cited by Munro. According to the statements of the patient, a female, about 20 years old, the first symptom, prominence of the eye, was noted about seven years ago. This gradually became more marked, but there was no pain and vision was not interfered with. A modified Kroenlein's operation for exposing the orbit was carried out and the tumor removed, in large part by curettage. A second operation was found necessary about two months afterward when the anterior wall of the upper jaw was removed up to the infraorbital foramen. Microscopic examination of some of the tumor tissue which had been decalcified showed calcareous bodies separated by tissue consisting of very closely packed, long spindle-cells, with little or no intracellular fibrillar substance. A diagnosis was made of psammoma of peculiar type, which possibly should be classed as sarcoma. The result of the operative treatment was eminently satisfactory. There was no evidence of return of the growth sixteen months after the first operation, but the result in restoration of the globe to its normal position was a disappointment.

New York Medical Journal.

March 4.

14 *Surgical Treatment of Hemorrhoids. Charles McBurney, New York.
15 *High-Frequency, High-Potential Currents, and *X*-Radiations in the Treatment of Epilepsy. Samuel G. Tracy, New York.
16 Open-Air Treatment at Home for Tuberculous Patients, with a Description of a Window Tent and a Half Tent. S. A. Knopf and W. B. McLaughlin, New York.
17 Resection of Gangrenous Intestine Due to a Volvulus Following a Second Attack of Appendicitis. Intestinal Obstruction Caused by Unoperated on Appendicitis. (Concluded.) Clarence A. McWilliams, New York.
18 *Retarded Development of Speech in Young Children. G. Hudson-Makuen, Philadelphia.
19 Active and Passive Exercise in the Treatment of Syphilis. Nathan T. Beers, Brooklyn.
20 *Two Cases of Cured Graves' Disease. Gerald B. Webb, Colorado Springs.
21 Uremia with Pericarditis; Clinical and Pathologic Reports. Henry S. Wieder, Philadelphia, and Harold L. Springer, Wilmington, Del.

14. **Treatment of Hemorrhoids.**—A study of the literature and clinical results obtained from various operations has convinced McBurney that operations on hemorrhoids, as frequently practiced, are open to improvement. Very painful external hemorrhoids are frequently produced or suddenly aggravated by an irritable contracted sphincter and in these cases dilatation of the sphincter under general anesthesia will often effect a satisfactory cure. If palliative measures are not sufficient to produce a cure in a case of internal hemorrhoids, operation is clearly indicated. The injection method is undesirable because it not infrequently results in suppuration or sloughing. The clamp and cautery method has no distinct advantages which outweigh its disadvantages. Occasionally, for the treatment of one or two single dilated hemorrhoidal veins, or very small vascular nodules, or in cases where hemorrhoids are already in a sloughing condition, the cautery is convenient. Whitehead's operation has far too frequently resulted in prolonged ulceration, and in most intractable stricture, to be recommended under any circumstances. The operation preferred by McBurney originated in Allingham's operation. With the patient in the lithotomy position the sphincter is gently but thoroughly stretched and the rectum irrigated with some warm salt solution. The hemorrhoid is grasped with a tight clamp from side to side, lifted from its attached aspect and with a knife an incision is made on either side of the tumor, parallel with its long axis, through the mucous membrane above and the skin below. The two incisions should meet at a very acute angle below and should invade the skin only enough to make this angle and to avoid producing an awkward fold. The tumor is then dissected up with the knife or with straight, sharp scissors, the dissection including the vessels of the hemorrhoid, but no more surrounding tissue than is necessary. The incisions and plane of dissection should converge toward the same point above, until the remaining attachment of the tumor is reduced to a small pedicle which contains the principal artery of supply and emergent veins. At the highest part of this pedicle a catgut ligature is tightly tied about it. All bleeding points must be tied or twisted. The wound is then sutured with a continuous suture of No. 1 catgut, beginning at the lower end, until the base of the pedicle is reached, when the suture is tied. The hemorrhoid may now be cut away just below, but not too near the ligature on the pedicle. As a rule, not more than two good sized hemorrhoids can be removed at one sitting without taking away an undue amount of mucous membrane. Cleanse the field of operation and introduce a suppository containing 1 grain of opium or 1/6 grain of morphin. The dressing is important if edema of the lower angle of the wounds, pain, and delay in healing are to be avoided. No food is given until the following day. Defecation should be deferred until the sixth or seventh day. Tubing introduced as part of the dressing is entirely unnecessary. McBurney claims for this operation that it is absolutely safe; that it is radical; that neither ulceration nor stenosis ever result from it; that convalescence is painless, and that cure is obtained with a minimum loss of time.

15. **Treatment of Epilepsy.**—Decidedly beneficial and curative effects have been obtained by Tracy from the treatment of epilepsy with high-frequency currents combined with *x*-radiations. In some cases he combined with this the administration of from 15 to 60 grains of sodium bromid a day. All cases were treated in much the same manner. Those of more than three years' standing gave the best results when the high-frequency current and the *x*-radiations were combined with small doses of sodium bromid, in females, doubling or trebling the amount of bromid just before and during the menstrual period. All reflex irritative disturbances should first be eliminated, and in using high frequency, high-potential currents, it is not necessary to refrain from employing any or all old-time remedies which have been found to afford even temporary relief. As a rule, each patient is treated every other day, first receiving *x*-radiations from five to ten minutes from a high tube placed from six to ten inches above the head so that the rays strike directly on the anterior and occipital part of the brain. After the *x*-radiation the patient is subjected to the influence of a high-frequency current, applied over the brain for ten minutes and for five minutes over the spine. As a result of the use of the combined method Tracy says that at least 25 per cent. of the petit mal patients may be considered tentatively cured, and the same may be said of 20 per cent. of the patients suffering from Jacksonian epilepsy, and 12 per cent. of the grand mal patients. All cases will improve more or less, not only in regard to the frequency of the epileptic seizure, but also in regard to severity. In addition to this the mental and physical condition was very much improved. Tracy suggests that it is possible that the high-frequency currents have some chemical effect on the bromid, possibly liberating a larger quantity of the bromin as the solution of the salt circulates in the brain and

thus the drug in smaller quantities has a more pronounced therapeutic effect in controlling the epileptic seizures.

18. **Retarded Development of Speech.**—Makuen says that retarded development of speech in young children may be the result of structural irregularities in the peripheral organs, impaired respiration, due to nasal, post-nasal and pharyngeal obstructions, paresis of the nerves supplying the organs of speech, and not infrequently to some disturbance of hearing not necessarily amounting to absolute deafness. Retarded development of speech always results in defective mentality. The treatment consists in the removal of obstructions in the peripheral organs and in the systematic training of the auditory and speech centers by the use of specially prepared vocal exercises.

20. **Cure of Graves' Disease.**—Webb reports two cases which were cured by what he terms the "recreation nerve cure." It consists in re-establishing the mental equilibrium of the patient, and Webb achieves this by instructing the patient to recite every day, at certain hours, some simple poem, which is to be memorized. This treatment is based on the theory that Graves' disease is the result of nervous exhaustion and escape of nervous energy.

Medical Record, New York.

March 4.

22 Digestion of Caseins, and Its Relation to Certain Problems in Infant Feeding. Thomas S. Southworth, New York.
23 *Fifteen Cases of Erysipelas Treated by Injections of Antistreptococcus Serum. J. C. Ayer, New York.
24 *Chronic Rheumatism, Gout and Other Uric-Acid Diatheses Treated by the *X*-ray, High-Frequency Currents and Vibratory Massage. Sinclair Tousey, New York.
25 *Prosthetic Treatment of Fracture of the Mandible. Francis A. Faught, Philadelphia.
26 Acute Intussusception in an Infant; Resection of Gangrenous Intussusceptum; Murphy Button Anastomosis; Recovery. Edward W. Peterson, New York.

23. **Erysipelas Treated with Antistreptococcus Serum.**—Ayer cites 15 cases of erysipelas treated by injections of antistreptococcus serum, with no mortality. He found that the serum shortens the course of an uncomplicated attack of erysipelas considerably, and also tends to inhibit the extension of the disease. It has a strikingly beneficial effect on the general condition of the patient, reducing the temperature, pain and discomfort. The febrile albuminuria is prevented or suppressed, and leucocytosis is reduced rapidly. The administration of large doses is not attended by any bad effects. The only disagreeable symptom observed by him was a transient eruption which occasionally occurs at the site of the injection. The initial dose in 6 reported cases was 20 c.c., followed by doses of 10 c.c., as often as necessary. The efficacy of the serum is in direct ratio to the length of time which has elapsed between the onset of the disease and the first injection of serum. Frequently within a few hours after the first injection the swelling becomes less marked and desquamation begins to be apparent. The decrease in the violence of the local conditions goes hand in hand with the constitutional improvement.

24. **Electrotherapy and Vibratory Massage in Uric Acid Diatheses.**—The so-called uric acid technic of Tousey consists in the application of vibratory massage over the abdomen and up and down the spine for about ten minutes twice a week, and the application of high-frequency currents on the same days, for about fifteen minutes, over the abdomen, up and down the spine, and over the affected joints and nerves. The *x*-ray has been applied only locally in cases of palpable deposit about a joint or nerve of a nature which has been found resistant to the other applications. The use of the *x*-ray does not form a part of Tousey's technic, but he has found it a most valuable adjunct in occasional cases. The apparatus employed is an eight or twelve-inch coil run by the direct 110-volt electric-lighting current, either with an electrolytic interrupter or a Wehnelt interrupter in which there is a large jar containing dilute sulphuric acid in which one lead electrode rests, the other electrode terminating in a platinum point surrounded by a porcelain tube beyond which a greater or less length of the platinum point may be protruded. For these rheumatic or gouty deposits the vacuum in the *x*-ray tube is regulated so that the resistance in the tube will back up a spark of three inches. The tube distance is nine inches; the time of exposure from three to five minutes twice a week. The effect is anodyne and resolvent.

25. **Treatment of Fracture of the Mandible.**—Faught condemns the use of the upper teeth as a splint and guide for maintaining the fragments in place with the aid of a bandage except in special cases, on the ground that it greatly limits the motion of the jaws and dooms the patient to a soft diet and to speechlessness for a period of five or six weeks. The commonly used metal or vulcanite interdental splint is open to the same objection. The continued use for any length of time of a fixation bandage passing around the front of the chin may result in positive and permanent harm. The metallic cap splint, on the other hand, affords a certain and effective means of securing fixation, while possessing none of the objectionable features of other fixtures. The splint can be constructed and cemented into place in a few hours. The splint is swaged between die and couter-die, made from carefully prepared impressions, and may be made of gold, platinum, silver or German silver. Such a splint, if carefully constructed and inserted, will remain firmly in place until it ceases to be of service and is removed from the mouth prior to the dismissal of the patient. The splint introduces the least amount of foreign substances into the mouth and is contained entirely within the mouth, thus reducing the patient's discomfort to a minimum, at the same time affording a rigid support for the fractured bone, while permitting of free movement of the mandible with easy access to the oral cavity.

Boston Medical and Surgical Journal.

March 2.

28 *Certain Aspects of Bile Duct Disease. James G. Mumford, Boston.
29 *Importance of Considering Ptosis of Other Organs in the Treatment of the Kidney. M. T. Smithwick, Boston.
30 *Treatment of Ptosis of Abdominal Organs by Abdominal Supporters. William H. Smith, Boston.
31 *Actual Results at the Massachusetts General Hospital Following Operative Treatment of Ptosis of the Abdominal Organs, with Special Reference to the Kidney. F. G. Balch and J. R. Torbert, Boston.
32 Results of Surgical Treatment of Movable Kidney at the Boston City Hospital. Paul Thorndike and L. R. G. Crandon, Boston.

28. **Aspects of Bile Duct Disease.**—The removal of all stones is advised by Mumford. If left behind they are very sure to cause subsequent disturbance, whereas, after the thorough removal of stones their recurrence is almost unknown. It is also essential to remove, as far as possible, all disorganized, degenerated and permanently crippled tissue, for such tissue, when left behind, may become the nidus for subsequent inflammation, stone formation and a return of the original trouble. Drainage must be provided for, because drainage of the ducts serves to carry off infectious material. Drainage in such cases is as essential as is drainage for pleural empyema.

29. **Splanchnoptosis and Nephroptosis.**—That these two conditions are frequently associated is shown by Smithwick. In 68 patients the right kidney was down in all, the left kidney in 20 per cent., the stomach in 62 per cent., the colon in 62 per cent., and the liver in 7 per cent. In 34 of the 57 females a pelvic examination was made and it was found that there was a marked ptosis of the uterus in some direction in 80 per cent. In no case did a kidney seem to interfere with other organs by pressure. The urine showed no serious disturbance of the renal functions in any case. Smithwick points out the association of ptoses and that several cases with marked ptosis of both kidneys showed no symptoms referable to this condition. Furthermore, he points out that it is impossible to distinguish the neurasthenic symptoms said to be typical of nephroptosis from those met with in other conditions.

30. **Abdominal Supporters in Splanchnoptosis.**—This phase of the subject has been gone into to some extent by Smith. He says that without the intelligent co-operation of both patient

and physician little benefit will follow the use of abdominal supporters. Where this co-operation can be secured and a properly fitted belt is made and properly worn, relief is to be obtained in certain cases, especially of nephroptosis with Dietl's crises. He believes that in some cases this relief will be permanent. His experience is limited to two kinds of abdominal supporters in two classes of cases, the first the ordinary unpadded abdominal band, the second the accurately fitted, padded, corset-like belt. The two classes of cases treated have been simple nephroptosis with or without Dietl's crises, and nephroptosis with gastroptosis. The ordinary unpadded abdominal supporter has proven of little value except in cases of marked diastasis of the recti muscles; with the corset-like padded belt better results have been obtained.

31. **Results Following Operative Treatment of Nephroptosis.**—Balch and Torbert report on the results obtained at the Massachusetts General Hospital from operation on movable kidney between 1890 and 1904. Of the total 92 cases 86 were females and 6 males. Of the females 61 were married and 25 were single. Pregnancy was given as a starting point in 33 cases, trauma in 10, and in 49 cases the cause was not known. Of these 49, 25 were married and 24 were single. Seventeen patients had other operations beside the nephropexy done at the same time. There was sepsis in 8 cases, and urinary symptoms in 22. Of the total number of patients 28 were relieved, 13 were not benefited by the operation and 51 had not been heard from. Balch has had 7 cases in his own practice, and his results lead him to believe that in outside practice, where one can choose the cases for operation and for supporters, and where one can be sure of a sufficiently long period of rest afterward, the results are much better than in hospital work.

Lancet-Clinic, Cincinnati.

March 4.

33 Report on Operative Work in the Ureter Through the Author's Catheterizing and Operative Cystoscopes. Bransford Lewis, St. Louis.
34 Medical Aspects of Gastroduodenal Ulcers. Louis A. Levison, Toledo, Ohio.

Annals of Otology, Rhinology and Laryngology, St. Louis.

December.

35 Necessity for the Obligatory Teaching of Otology in Medical Schools. A. Politzer, Vienna.
36 *Mucin in Atrophic Conditions of the Nose and Throat. J. E. Newcombe, New York.
37 *Electrolysis of the Eustachian Tube. T. J. Harris, New York.
38 Psychic Element in Deafness. Boulay and Hadour.
39 Acute Otitis Media Due to Influenza Bacillus. G. M. Didsbury, Paris.
40 Examination of Ears of Railway Engineers and Firemen in Relation to the Length of Service and the Fuel Employed in Roumania. M. Costiniu.
41 Necessity for Obligatory Instruction in Otology in the University. G. Gradenigo.
42 *Osteoplastic Operations on Frontal Sinuses for Chronic Suppuration. R. Hoffman.
43 Obliteration of the Pharyngeal Orifice of the Eustachian Tube, Coexistent with Annular Stenosis of the Epipharyngeal Isthmus. J. Molinie, Marseilles.
44 Bougiage of the Eustachian Tube. C. J. Koenig, Paris.
45 Lucae's Spring-sound, Paraffin. C. J. Koenig.
46 Modification of Eustachian Catheter so as to Facilitate the Return of Effusions in the Middle Ear. C. J. Koenig.
47 Purulent Pial Meningitis Following Acute Middle Ear Disease. J. H. Claiborne, New York.
48 Removal of the Middle Turbinal. B. R. Kennon, Norfolk, Va.
49 Special Syndrome of Endocranial Otitic Complications. G. Gradinego.
50 Associated Otomycoses. L. Bar, Nice.

36. **Mucin in Atrophic Conditions of Nose and Throat.**—Attention is called by Newcombe to some of the properties and uses of mucin as a therapeutic agent. He states that mucin artificially applied to the nose and pharynx has a soothing and emolient action, moistens the surface and softens incrustations, readily facilitating their removal and preventing their reformation. Mucin solutions obviate fetor, and by their hygroscopic action, which is about one-fourth as great as that of glycerin, they tend to restore the function of smell, and favor the filtering and warming functions. Combined with an alkali the solutions neutralize the acid often found in atrophic rhinitis.

37. **Electrolysis of Eustachian Tube.**—Harris details his further experiences with the electrobougie. He says that there is a certain degree of value in the method as described by Duel in a relatively small number of cases, notwithstanding that in the hands of many operators it has proved disappointing. The method has shown itself to be attended with no small degree of danger, and accordingly should be employed only after every other means of establishing the patency of the eustachian tube has been tried. The most scrupulous attention to antisepsis is essential and the greatest gentleness as regards current and touch. Not every one who provides himself with the apparatus is competent to carry out this procedure. It requires the manipulation and skill of an expert. Many of the temporary beneficial results that have been attained are due to galvanism and not to electrolysis.

42. **Osteoplastic Operations on Frontal Sinuses.**—Wherever there is no disease of the bony walls of the frontal sinus, says Hoffman, the osteoplastic method of treating chronic frontal sinusitis is to be preferred, since it satisfies all the indications; that is, a survey of the sinus is thereby obtained, and the treatment of the ethmoid can also be carried out, and, therefore, all diseased tissue can be thoroughly removed, while, at the same time, the cosmetic result is good. In using it, care must be taken that the replaced bony flap everywhere rests on the surrounding bone, in order to get good cosmetic results and to prevent the formation of recesses that delay healing. The connection of the unobliterated cavity with the nose must remain a wide one, as this is the surest guarantee against retention of secretions during healing and against reinfection.

Therapeutic Gazette, Detroit.

February 15.

51 *Bisulphate of Soda in Typhoid. J. E. Cannaday, Paint Creek, W. Va.
52 Pernicious Vomiting of Seven Years' Duration Cured by Suspension of the Kidney. G. E. Shoemaker, Philadelphia.
53 Rest as a Curative Agent. G. Wehrle, El Paso, Texas.
54 Antitoxin Rashes. F. A. Sutcliff, Philadelphia.
55 Differentiation and Treatment of Eye Diseases Most Commonly Seen by the General Practitioner. L. F. Love, Philadelphia.

51. **Bisulphate of Soda in Typhoid.**—The bisulphate of soda is used by Cannaday in the treatment of typhoid in the strength of 7½ gr. to the ounce of water, 2 ounces of this solution being given every three hours. It corresponds in acidity to the hydrochloric acid of the stomach, and hence, promotes digestion. The solution is not at all nauseous and patients, as a rule, do not object to the taste. In a series of 85 cases, the percentage of deaths was 8.02. Two of the deaths were directly due to peritonitis from perforation, one from erysipelas as a complication, while the other fatal cases were evidently due to the exhaustion and depression incident to the disease. In one of the fatal cases, delirium was present when treatment was begun and 2 others were not seen until the end of the second week. The average stay in the hospital was 27.08 days; average duration of fever, 14.06 days; average period of convalescence, 13.02 days. Complications were infrequent. Diarrhea and tympanites were uncommon.

Chicago Medical Recorder.

February 15.

56 Treatment of Pneumonia. F. S. Johnson, Chicago.
57 Physical Basis for Diagnosis in Pneumonia. R. H. Babcock, Chicago.
58 Observations on Influenza Pneumonia. C. L. Hobbs, Chicago.
59 *Regarding Vaccination. H. Spalding, Chicago.
60 Neglected Concomitants of Urethral Stricture. G. F. Lydston, Chicago.
61 Hypertrophy of the Faucial and Pharyngeal Tonsils in Children. Importance of and Necessity for Early Diagnosis and Treatment. T. M. Hardie, Chicago.
62 Ear Diseases Following the Acute Infections of Early Childhood. G. E. Shambaugh, Chicago.
63 Modified Aiquie-Alexander-Adams Operation for the Cure of Retroversio-Flexion. H. E. Sauer, Chicago.

59. **Vaccination.**—Spalding, who has had quite an extensive experience with smallpox, makes some very interesting as well as important statements regarding vaccination. Attention is directed to two points in particular: First, the absolute certainty of protection from smallpox afforded by vaccination; second, the universal susceptibility of persons to vaccinia. He has never seen a case of smallpox in a person who had been vaccinated within nine years. During the last six years,

Chicago has had 1,441 cases of smallpox. Of this number 1,270 never had been vaccinated; 162 had some sort of a scar, said to be from a vaccination made in early life, and, with a single exception, not one of them had ever been re-vaccinated. During that time no vaccinated school child has been known to contract smallpox, and yet about one-fourth of the cases of smallpox were children, mostly unvaccinated, under the school age of six years. From 10 to 30 medical students from the various medical college have been visiting the Chicago Isolation Hospital weekly for the last four years. These students are taken into the wards, where they see smallpox in all stages of the disease, and are subjected to a prolonged exposure; not one of these students has contracted the disease. Speaking of the susceptibility of all persons to vaccinia, Spalding emphasizes the fact that in some cases it requires five, six, or ten attempts and states that in one instance, thirteen trials were made, before a typical vaccination was secured. Often the failure is due to inert lymph, and again, there is faulty technic in the operation. The procedure he advises is as follows: Sterilize the arm, throw the vaccine on the arm, and then, with a dull needle, go right through the drop of vaccine, and with slight pressure irritate and abrade the skin until it is red. Do not bring blood and do not remove the epithelium from a spot more than one-eighth of an inch in diameter. Make but one mark.

Journal of Infectious Diseases, Chicago.

March 1.

64 *Studies in the Frequency, Localization and Modes of Dissemination of Tuberculosis, with Special Reference to Its Occurrence in the Lymph Nodes and During Childhood. Francis Harbitz.
65 *Experimental Measles. Ludvig Hektoen, Chicago.
66 Trypanosomes of Birds. Frederick G. Novy and Ward J. MacNeal, Ann Arbor, Mich.
66½ Some Observations on the Biology of the Cholera Spirillum. William B. Wherry, Manila, P. I.
67 Amebas: Their Cultivation and Etiologic Significance. W. E. Musgrave and Moses T. Clegg, Manila.
67½ Studies on Hog Cholera. Charles T. McClintock, Charles H. Bozmeyer and J. J. Siffer.

64. **Lymph Node Tuberculosis.**—In a very exhaustive article on this subject, Harbitz attempts to show that pulmonary tuberculosis may be and often is secondary, and that the cause is then to be sought in tuberculous foci in other organs, but mainly in the lymph nodes, the infection of the lungs occurring most likely by way of the blood. He maintains, furthermore, that much more stress must be laid on primary infection through the digestive tract and on infection through the throat than has been done formerly. A number of very interesting and pointed clinical histories and autopsy reports are given in detail to prove the author's points.

65. **Experimental Measles.**—Hektoen reviews the results of the inoculation of measles as they appear in the literature and then records two experiments of his own from which he believes certain conclusions may be drawn. In these experiments special care was taken to exclude natural infection. The blood injected was taken from a boy of 9, who, in the later stages of desquamation after an uncomplicated attack of scarlet fever, developed a rather mild, but typical attack of measles. On the fourth day, 4 c.c. of blood were withdrawn from the vein of the right elbow, and two flasks containing 50 c.c. of ascites-broth (pepton broth, 2 parts; ascitic fluid heated to 55 C., for fifty-four minutes, 1 part) were inoculated at once with 1 and 3 c.c. of blood respectively, and placed in the incubator at 37 C. for twenty-four hours. Subcultures made at this time on ascites agar, glycerin agar, and Loeffler's serum, kept under aërobic and anaërobic conditions, remained sterile; and the contents of the flask of ascites-broth containing 1 c.c. of blood remained permanently sterile. Four c.c. of the flask of 50 c.c. of ascites-broth mixed with 3 c.c. of blood and kept in the incubator at 37 C. for twenty-four hours, were injected under the skin of the chest of a healthy man, 24 years old, just finishing desquamation after an uncomplicated attack of scarlet fever. So far as could be learned, this man had not had any disease at all resembling measles. At no time did any local symptoms appear at the sight of injections. On the thirteenth day, the temperature rose to 101, and on the fourteenth, immediately after taking a warm bath, a red, papular, blotchy eruption broke out on the forehead and spread quite rapidly to the face, neck and chest. The temperature remained above normal for two days, when it fell to normal about the same time that the unmistakably typical full-grown, rubeolous rash began to fade. An uneventful recovery promptly followed without any complications, the desquamation being branny. During the entire illness there was freedom from respiratory symptoms, and during the pre-eruptive period there were no special local symptoms (*Morbilli sine catarrho*). In the second experiment the blood was furnished by a girl, 21 years old, who passed through an uncomplicated attack of typical measles. About thirty hours after the earliest appearance of the rash which still was coming out on the extremities, 10 c.c. of blood were withdrawn and distributed equally among four flasks, each containing 50 c.c. of broth and 25 c.c. of ascites fluid. These flasks all remained perfectly sterile. After twenty-four hours, 5 c.c. of the mixture of blood and ascites-broth were injected subcutaneously in the back of a man who had not had measles. He, too, was recovering from a mild attack of scarlet fever. There were no local changes at the site of injection. On the eleventh day the temperature rose to 99.8 F., and the next day a mild conjunctivitis became definitely apparent. On the thirteenth day there was some cough, the tonsils were bright and red, and there was an increased amount of mucus in the throat. The temperature gradually rose to 103. During the next night a typical rubeolous eruption came out, the first spots being noticed on the nose and then on the forehead, face, scalp, chest, back and abdomen. The forehead was quite uniformly red. Recovery was prompt. Hektoen concludes that the virus of measles is present in the blood of patients with typical measles, sometime at least during the first thirty hours of the eruption. Furthermore, that the virus retains its virulence for at least twenty-four hours, when such blood is inoculated into ascites-broth and kept at 37 C.

Wisconsin Medical Journal, Milwaukee.

February.

68 Address of President of Medical Society of Milwaukee County. G. E. Seaman, Milwaukee.
69 Surgical Treatment of Ascites Due to Cirrhosis of the Liver. W. Mackie, Milwaukee.
70 Medical Ethics. J. L. Cleary, Kenosha.
71 Glimpse into the Past, Present and Future of Therapeutics. S. R. Moyer, Monroe, Wis.

Old Dominion Journal, Richmond.

February.

72 Treatment of the Alimentary Canal Before and After Abdominal Section. I. S. Stone. Washington.
73 Metastasis from Cancers of the Breast. G. Baughman, Richmond.
74 Headaches from Eyestrain. C. M. Miller, Richmond.
75 Small Point in Therapeutics. C. W. Astrop, Surry, Va.
76 Is Gynecology a Specialty? C. R. Robbins, Richmond.

St. Paul Medical Journal, St. Paul.

February.

77 Diagnosis of Gallstone Disease. Based Upon the Clinical Histories of 1,000 Operated Cases. W. J. and C. H. Mayo, Rochester, Minn.
78 Nasal Deformities and Paraffin Prothesis. A. C. Heath, St. Paul.
79 Epilepsy a Public Menace. C. E. Riggs, St. Paul.
80 Symptoms Incident to Dentition. W. R. Ramsey, St. Paul.

Northwestern Lancet, Minneapolis.

February.

81 President's Annual Address to the Hennepin County Society. C. H. Hunter, Minneapolis.

Cleveland Medical Journal.

February.

82 Medical Inspection of Public Schools. Wm. S. Chase, Akron, Ohio.
83 Care of the Sick Poor by the Hospital and Dispensary. F. E. Bunts, Cleveland.
84 Care of the Sick Poor by the District Physician. L. W. Childs, Cleveland.
85 Care of the Sick Poor in Their Homes. M. Johnson, Cleveland.

New York State Journal of Medicine, New York City.

February.

86 Municipal Sewage. D. C. Moriarta, Saratoga Springs, N. Y.
87 Early Diagnosis and Treatment of Pulmonary Tuberculosis. J. J. Walsh.
88 Value of Transillumination of the Stomach as an Aid to Diagnosis. R. C. Kemp, New York.
89 Calculi in Blandin's and Submaxillary Glands—Report of Cases. H. Jarecky, New York.

Journal of Nervous and Mental Disease, New York.

February.

90 The Course of the Sensory Fibers in the Spinal Cord and Some Points in Spinal Localization Based on a Case of Section of the Cord. M. Prince, Boston.
91 Two Cases of Syphilitic Disease of the Cervical Spine. F. R. Fry, St. Louis.
92 Case of Trauma of the Foot of the Second Frontal Convolution, followed by Ataxia, Nystagmus and Epilepsy. F. X. Dercum, Philadelphia.

Indiana Medical Journal, Indianapolis.

February.

93 Medical Men and Medical Progress, Past, Present and Future. Wm. H. Wishard, Indianapolis.
94 Treatment of Intestinal Obstruction. J. C. Sexton, Rushville.
95 Educational Function of the Physician. F. S. Roby, Indianapolis.
96 The Obstetric Forceps. Garrett Pigman, Liberty.
97 Gastric Ulcer. George H. Grant, Richmond.
98 "Western Medicine." L. H. Dunning, Indianapolis.
99 Compound Tincture of Benzoin. E. J. Kempf, Jasper.

Journal of the Association of Military Surgeons, Carlisle, Pa.

February.

100 Medical Reserve Corps for the United States Army. Azel Ames.
101 Altitude and Expansion. P. M. Carrington, Fort Stanton, N. Mex.

Alienist and Neurologist, St. Louis.

February.

102 Erotomania. Case of Exhibitionism—A Medicolegal Study. D. S. Booth, St. Louis.
103 Outlines of Psychiatry in Clinical Lectures. C. Wernicke, Breslau.
104 Is Delusional Insanity Due to Disease of the Brain? J. W. Wherry, Clarinda, Iowa.
105 Does the Policy on the Victim of an Insane Homicide Beneficiary Become Void by the Homicide? An Analysis of the Paul Holtz Case. J. G. Kiernan, Chicago.
106 Chorea Insaniens. D. R. Brower, Chicago.
107 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. J. G. Kiernan, Chicago.

New Orleans Medical and Surgical Journal.

February.

108 Frequency of Multiple Sclerosis in Louisiana. Roy M. Van Wart, New Orleans.
109 Vaginal Cesarean Section; Report of a Case. C. Jeff Miller, New Orleans.

Brooklyn Medical Journal, Brooklyn, N. Y.

February.

110 Acute Tuberculous Pneumonia. W. Osler, Baltimore.
111 Case of Acute Septic Inflammation of the Throat and Neck, in which Edematous Swellings Were Dispersed by the Use of Adrenalin Chlorid. T. R. French.
112 Clinical Significance of the Tube Casts in the Urine. T. C. Craig.
113 Sterile Water Anesthesia in the Treatment of Hemorrhoids. M. L. Bodkin, Brooklyn.
114 The Diagnosis of Empyema in Children. J. W. Parrish.
115 Adenoids as a Cause of Deformities of Dental Arch. H. H. Young, Riverhead, L. I., N. Y.
116 Appendicitis with Diffuse Peritonitis. J. E. Jennings.
117 Case of Goiter. E. A. Parker.

Kentucky Medical Journal, Louisville.

February.

118 Normal Labor. J. M. Jennings, Tyrone, Ky.
119 Proximity and Position of Weapon in Gunshot Wounds as Estimated by External Appearances of Wound at Point of Entrance. J. K. W. Piper, Russellville, Ky.
120 Case of Typhoid with Sequelæ. J. H. Blackburn, Bowling Green, Ky.
121 Second Letter from Notes Taken on a Trip to the Pan-American Medical Association in the City of Mexico. D. G. Simmons, Adairville, Ky.
122 Postpartum Hemorrhage. W. M. Miller, Millersburg, Ky.
123 Simplicity in Surgical Methods. L. Frank, Louisville, Ky.

Atlanta Journal-Record of Medicine.

February.

124 Facts and Fallacies in Gastrointestinal Work. L. Amster, Atlanta, Ga.
125 Prostatic Massage. W. L. Champion, Atlanta, Ga.

Medical Herald, St. Joseph, Mo.

February.

126 Mental Inhibition, or the Relation of the Neuroses and Pre-Melancholias to the Divorce Court. S. G. Burnett, Kansas City, Mo.
127 Apoplexy. F. E. Coulter, Omaha, Neb.
128 Something About Cerebrospinal Meningitis. C. B. Hardin, Kansas City, Mo.

Albany Medical Annals.

February.

129 Symptomatology and Localization of Tumors of the Cerebellum. H. C. Gordinier, Albany.
130 Pathology of Brain Tumors. H. W. Carey.
131 Surgical Treatment of Brain Tumors. Arthur W. Elting.

Northwest Medicine, Seattle, Wash.

February.

132 American Contributions to Tropical Medicine. J. W. Amesse, Seattle.
133 Atypical and Modified Forms of Typhoid. C. J. Lynch, North Yakima, Wash.
134 Chronic Splenic Anemia with Report of a Case. E. F. Connyngham, Philipsburg, Mont.
135 Defects of Eyes, Ears, Noses and Throats in School Children. A. W. Hawley, Seattle.

Kansas City Medical Index-Lancet.

February.

136 Address, Kansas City Academy of Medicine. C. A. Ritter, Kansas City.
137 Importance of Rest in the Treatment of Acute Tuberculosis. B. F. Stevens, El Paso, Texas.
138 Remarks on Refraction. J. W. Kimberlin, Kansas City.
139 Pneumonia; Its Diagnosis and Treatment. R. W. Paris, Morrisville, Mo.
140 Influenza. R. P. Walker, Bolton, Mo.

Medicine, Detroit.

February.

141 Diagnosis of Perforation and Localization of Appendicular Abscess. C. G. Cumston, Boston.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The British Medical Journal, London.

February 18.

1 Hunterian Oration. John Tweedy.
2 *Visceroptosis; Symptoms and Treatment. H. A. MacCallum.
3 *Recurrent Vomiting in Children. H. B. Shaw and R. H. Trive.
4 *Id. F. Langmead.
5 Hematemesis and Melena in an Infant Two Days Old; Recovery. E. Morris and F. Feldman.
6 *Case of Long-standing Constipation. H. Grey.
7 *Ergot and Arsenic in Chorea. C. Riviere.

2. **Visceroptosis.**—McCallum lays great stress on feeding and massage in the treatment of this condition, on the basis that it is due to a weakened action of the abdominal walls. The superabundance of alimentation means the superabundance of materials that build up the nervous system. Massage promotes the stripping of the connective tissues of their lymph and the renewing of it, and thus makes the lymph pure and nutritious. By this interchange and removal of waste products from muscles, connective tissue and skin, and their daily discharge into the blood circulation, the external organs of excretion are enabled to keep the flow of lymph in a higher state of purity. Massage will build muscles, and in this disease the abdominal wall must be built up. If this is done, the levator ani and the diaphragm will bring themselves up to a state of tone to oppose the lower and upper zone of these muscles respectively. Massage helps the patients not only to get control of the lower neurons of the body, but likewise of the upper neurons. When the stomach is prolapsed, the muscular contractions of the abdominal wall are factors of the highest importance in emptying the stomach contents into the duodenum. No age with visceroptosis is barred from the benefits of this treatment.

3 and 4. **Recurrent Vomiting in Children.**—These two articles are discussions of the clinical history of this condition as presented by various authorities, with reports of illustrative cases.

6. **Long-Standing Constipation.**—For a period of eleven years, Grey's patient, a boy, aged 13½ years, had been accustomed to have an evacuation at intervals of from three to six weeks. On examination, the sphincter was found firmly contracted and the rectum was distended with a huge fecal mass, very hard and firm. The feces were removed by enemata of hot olive oil, thirty ounces twice a day, for nine days. Thereafter a suitable dietary, a pill of aloes and iron, four times a day, massage of the whole body, and especially of the abdominal muscles, and gymnastic exercises were ordered. The aloes and iron pills were gradually reduced in number until after three months only one a day was taken. In three weeks, again, this also was dropped, and the boy has been relieved of his trouble. The case is of interest because of the duration of the condition, the enormous amount of the retained material—29¾ pounds—practically a third of the body weight, and the satisfactory results of treatment.

7. **Ergot and Arsenic in Chorea.**—Riviere reports on the results obtained from the administration of ergot and arsenic in 35 cases of chorea. The ergot was given in doses of 1 to 1½ drams of the liquid extract, three times a day, with 2 minims of liquor strychniæ. These doses did not give rise to symptoms of poisoning, nor to any appreciable physiologic effects. About half of the patients were rapidly improved or cured by this means and most of the remainder improved when arsenic was substituted. That it is the drug treatment which was effectual in these cases is beyond question, because often when it was stopped a relapse occurred and the patient was again cured or improved by its re-administration. In 2 cases, the ergot treatment was ineffectual; arsenic made the patients worse, but on returning to ergot, they were immediately improved. This experience suggested to Riviere the advisability of trying ergot and arsenic in combination. The mixture used contained 1 dram of extract of ergot and 3 minims of liquor arsenicalis, these doses being increased as seemed desirable. There are few patients who remained unbenefited by this treatment; in the majority the improvement began at once. The unbenefited cases consist mainly of those violent choreas for which so little beyond isolation can be done. [Liquor strychninæ of the British pharmacopeia consists of 1 grain of strychnin sulphate to 110 minims of distilled water. Liquor arsenicalis is Fowler's solution.—ED.]

The Lancet, London.

February 18.

8 Functional Mental Disorders. George H. Savage.
9 Early Symptoms of Insular Sclerosis. E. Hobhouse.
10 *Sabouraud's Method of Ringworm Treatment. J. L. Bunch.
11 Some Cases of Urethral Stricture Complicated with a Prostatic False Route or Passage; with Remarks. Reginald Harrison.
12 Colles' Fracture and Other Fractures and Disjunctions at the Lower End of the Radius and Ulna. Andrew Fullerton.
13 Case of Acute Hemorrhagic Pancreatitis; Operation; Recovery. T. C. Litler Jones.
14 Histo-pathology of Seborrhea, Seborrheic Dermatitis and Psoriasis. R. W. Brimacombe.
15 *Case of Endocarditis with Pericarditis Following Scarlet Fever; Treatment by Antistreptococcic Serum; Recovery. Alfred R. Spencer.
16 *Traumatic Lumbago. Frank Romer.

10. **Sabouraud's Treatment of Ringworm.**—The simplicity and effectiveness of this treatment is attested by Bunch. The method is painless, the actual time necessary for the treatment is short, and the diseased hairs fall out at a definite interval after application of the *x*-rays, and are replaced, after a certain time, by a growth of healthy hair. The essential apparatus necessary is an electric current, constant or alternating, and the Crookes tube. The electric energy for the production of the *x*-rays can be derived from a static machine, a Ruhmkorff coil or a transformer, and the Crookes tube can be of almost any pattern or any age. Sabouraud uses a static machine of ten plates driven by a three-quarter horse-power dynamo with a Béclère "spinter-meter" interposed between it and the tube. This latter modification warns the operator at any moment of an increase in the resistance of the tube and enables him to make any necessary alteration. The tube has an ingenious modification of Villar's which enables it to be made "soft" at will. The relative hardness or softness of the tube is recorded by the radiochronometer of Benoist; the resistance of the tube should correspond to the fourth division of the scale. To measure the quantities of *x*-rays generated in a given time, Holzknecht's pastilles are employed. These are composed of a mixture of alkaline salts and resin, which slowly change in color under the influence of the *x*-rays. From time to time the change in color is compared to the standard scale, each of the 12 degrees of which is termed by Holzknecht's one unity, H. The tint corresponding to 5 unities H of Holzknecht's scale, must not be passed, at least at one sitting. Sabouraud has recently adopted the use of paper covered with an emulsion of platinocyanid of barium, and the tint which corresponds to 5 unities H is copied in water color and kept at hand for reference. The paper has the advantage over the pastilles in that it is cheaper, does not become darker when withdrawn from the rays, and regains its original color when removed from the rays and exposed to light. It is less sensitive, however, than the pastille, and must be placed at about half the distance of the pastilles from the anticathode. To cure a patch of ringworm they must be exposed at a distance of 15 cm. from the Crookes-Villar's tube, the tube having a resistance corresponding to the fourth division of the radiochromometer of Benoist, until the quantity of the *x*-rays generated amounts to from four and a half to five unities H of Holzknecht's scale. The operator and the healthy portions of the patient's scalp must be protected from the rays by enclosing the tube in an impermeable sheath perforated by apertures, one of which admits a metal tube corresponding to the size of the ringworm patch. From the fifteenth day onward, the hairs fall out all over the area treated without any effort or traction. The old hair has been extruded by the time the new hair begins to grow. The growth of the new hairs is slow; in the normal cases it is almost complete two months after its commencement. A single sitting is sufficient, and the danger of reinfection or of recurrence is minimal. Where a large area of scalp has to be treated this is best done by dividing it up into smaller square areas and treating each of them separately. Square areas are much more practicable than round, avoiding overlapping or the omission of small triangular patches where two or three circular areas join. The dosage of the *x*-ray must be accurate and sufficient. The first séance, if insufficient, will cause an imperfect fall of hair, and if a second séance be given, those hairs which survived the first time will fall out, but those which fell out as the result of the first treatment will not grow again. The treatment has proved markedly successful. (See THE JOURNAL, page 1265 of the last volume.)

15. **Antistreptococcic Serum in Scarlet Fever.**—Spencer's patient, a boy, aged 5 years, developed an infective endocarditis with pericarditis, during his convalescence from scarlet fever, in the seventh week. Antistreptococcic serum, in doses of 10 c. c., was injected twice on the ninth and once on the tenth and eleventh days of the illness, and again on the seventeenth, eighteenth (twice) and nineteenth days of illness. Both times the result was marked, the temperature falling rapidly to 98. Spencer advises that the serum treatment be begun early and that the size of the dose should be regulated not by the age of the patient but by the gravity of his condition. It is also undesirable to wait for a positive confirmation of the diagnosis, such as embolism or infarct before beginning treatment.

16. **Traumatic Lumbago.**—Romer describes this condition as one in which pain and stiffness in the lumbar region, caused by injury, persist long after the immediate and acute effect has passed away. The treatment aims at stretching the contracted muscles and rupturing the adhesions which are supposed to be present. An anesthetic is given to ensure complete muscular relaxation and absolute freedom in manipulation. The patient is placed on his back, the leg on the sound side is flexed at the knee, and the thigh is flexed on the body till the knee touches the chest wall. It is then brought back to the extended position. The leg on the affected side is put through the same movements. Both legs are then brought up in the same manner and down again flat on the bed, the patient being raised to a sitting posture. One hand is placed firmly over the affected lumbar region, while, with the other, the patient is thrust back toward the bed. By this procedure the lumbar portion of the spinal column is put through flexion and extension as the patient is pressed forward and backward. The after-treatment is directed toward the maintenance of movement, for which purpose it is advisable to have the lumbar and gluteal muscles "shampooed" within six hours of the operation. In the course of a few days graduated exercises should be added to the rubbing. Later, swimming is to be advised. The histories of six cases are appended to the paper.

Bulletin de l'Académie de Medécine, Paris.

17 (Year LXIX, No. 5.) *Radioscopie. Loison (Val-de-Grace).
18 *Recherches sur la surdi-mutité (deaf mutism). Castex.
19 Discussion in Regard to Apparatus for Administration of Chloroform. Lucas-Championnière and Reynier.

17. **Radioscopy of the Heart.**—Loison concludes from radioscopic researches on 400 young men that the size of the heart is comparatively large in persons who have had rheumatism

or other affections involving the heart, and also in workmen compelled to violent efforts. On the other hand, the shadow cast by the heart is abnormally small in persons affected with pulmonary tuberculosis or predisposed to contract it. The only exception is in case of tuberculous pleurisy.

18. **Causes of Deaf-Mutism.**—Castex has examined 800 deaf mutes with an autopsy in 154 cases. In about 68 per cent. of the entire number the condition was congenital; in the remaining 32 per cent. the deaf-mutism had been acquired in consequence of lesions in the auditory apparatus, including affections of the auditory centers in the cortex. The autopsy findings emphasize the importance in the etiology of the causal lesions in the labyrinth, cortex or medulla, of meningitis, of infectious diseases and of accidents involving the skull. Suppuration of the middle ear or of the eustachian tubes has much less etiologic importance. In one case the condition followed an acute osteomyelitis. The lack of vertigo in deaf mutes implies the abolition of the functions of the labyrinth and semicircular canals. This frees the victims from seasickness. Direct inheritance of the deaf-mutism he found to be exceptional, but syphilis or alcoholism in the parents, or consanguineous marriages, were frequent in the history of the cases.

Berliner klinische Wochenschrift.

20 (XLII, No. 5, January 30.) Ueber Darmfäulnis bei Icterus catarrhalis (intestinal putrefaction). F. Blumenthal.
21 Cesarean Section in Dwarfs. Two Cases.—Zwei rachitische Zwerginnen, durch Kaiserschnitt entbunden. Zwergwuchs. Helmbold.
22 *Chemisches zur Carcinom-Frage. Ueber anormale fermentative Vorgänge beim Krebs. C. Neuberg.
23 *Frequency of Primary Intestinal Tuberculosis at Berlin.—Ueber die Häufigkeit der primären Darmtuberkulose in Berlin. O. Wagener.
24 Intestinal Affections in Infants.—Klinik der Säuglingsdarmkrankheiten. Salge.

22. **Chemical Study of Carcinoma.**—Neuberg has been examining the chemistry of metastases of carcinoma in the liver, and comparing the findings with those of the primary tumor. He also investigated the influence of carcinoma juice on lung tissue, etc. He found that the tissue of the metastases contained more pentose than the primary focus, showing that important cell functions are transformed and modified, either acquiring new power as a ferment or losing some specific ferment action. These findings throw new light on the cachexia accompanying cancer.

23. **Frequency of Primary Intestinal Tuberculosis at Berlin.**—Among 410 cadavers Wagener found 20 in which primary tuberculosis of the intestines was apparent. In 67 cadavers of children under 15 it appeared in 11, that is, in 16.4 per cent. In Orth's experience with 203 cadavers of children under 15, in only 2 were there traces of primary tuberculosis of the intestines. Wagener further found at Kiel 4.7 per cent. in 600 autopsies, and this list included 76 cadavers of children under 15, with 21.1 per cent. exhibiting the primary intestinal lesions.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

25 (XXXI, No. 3, January 19.) *Zur Frage der physiologischen Albuminurie. W. v. Leube (Würzburg).
26 *Functional Examination of the Heart.—Einiges über funktionelle Herzdiagnostik. Fr. Kraus. (Commenced in No. 2.)
27 *Die Behandlung der habituellen Obstipation. A. Schmidt.
28 *Trichocephaliasis mit tödlichem Ausgang (fatal). A. Sandler (Breslau).
29 *Ueber die Behandlung der nervosen Ohrerkrankungen (nervous ear affections). K. Burkner (Göttingen).
30 *Remarkable Case of Vicarious Activity.—Ein Fall wunderbaren Vikariierens. S. Rubinstein.
31 *Absorbable Ligation Clamp.—Resorbierbare Ligaturklemme. M. Imchanitzky and J. Ries.
32 Ueber die Filatow-Dukesche Krankheit. J. Ruhemann.
33 *Die intravenöse Salicyl-Behandlung. Rubens.
34 New Artificial Carbonated Baths.—Ueber neue künstliche Kohlensäurebäder. A. Zucker.
35 *The St. Louis Exposition.—Erinnerungen an die Weltausstellung in St. Louis, Mo., 1904. W. Waldeyer. (Concluded.)

25. **Physiologic Albuminuria.**—According to von Leube, the albuminuria of puberty is due either to defective or to excessive development which regulates itself later. Other varieties of the so-called physiologic albuminuria are due, he thinks, to a congenital relative porosity of the filtering membrane of the glomeruli; it is sometimes noted in several members of a family. Under the influence of fatigue, nervous excitement or the like, albuminuria may be discovered at times. The reverse condition may be noted in certain other persons, that is, a relative impermeability of the filtering membrane of the glomeruli. This explains why albuminuria does not occur in these subjects even when conditions favoring it exist. In 109 cases of heart disease at his clinic, which came to autopsy, there had been no albuminuria during life in 4 of the patients. To his surprise he found marked evidences of congested kidney in all of this group. The absence of albuminuria indicated that the renal filter must have been extremely nonporous. This varying porosity of the kidney filter must be taken into account in examining cases of cardiac insufficiency without albuminuria.

26. **Examination of the Heart.**—In this communication from the second medical clinic at Berlin, Kraus analyzes the findings of radioscopy of the heart in health and disease. He asserts that the shades of difference between the heart shadows cast in cases of various valvular affections are of greater diagnostic importance than the dilatation of the heart alone. These differences in shadows are due to changes in the shape of the various sections of the heart, the immediate consequence of the valvular defect. The consecutive hypertrophy of the musculature and passive dilatation naturally reinforce and nail, as it were, the differences in the outline. This is especially marked in the left convex protrusion of the so-called left middle arc in case of mitral defect, also in the varying behavior of the left lower arc with mitral insufficiency and pure mitral stenosis, and, finally, in the varying outline of the shadow as it spreads to the right in case of aortic and mitral defects. Radioscopy of the heart after artificial distension of the stomach is very instructive. The presystolic pulsation of the right auricle can be distinctly distinguished from the contraction of the ventricle. Two and sometimes three contractions of the auricle to one of the ventricle are sometimes noted. Intermittence of the heart is seen to be by no means always identical with intermittence of the pulse. In cases of tachycardia and bradycardia radioscopy throws light on many hitherto vague processes, especially those of nervous origin, as he describes in detail.

27. **Treatment of Habitual Constipation.**—Schmidt explains the chief benefit of injections of oil as due to their counteracting the mild irritation induced by the fatty acids generated in bacterial putrefaction. The oil reduces friction and soothes the irritated mucosa. Oil injections are frequently extremely beneficial in spastic obstipation. He has derived great benefit in certain cases from injection of seltzer water. In certain cases the freshening action of the carbonated water on the torpid mucosa is very useful. If the intestines are sensitive, some of the new effervescing oils may be used. In regard to drugs, he remarks that there is no purgative which does not irritate the intestines more or less and frequently aggravate the condition, although some persons can take their rhubarb tablets or cascara drops for years without harm, changing occasionally to prevent habituation. Among the regularly used laxatives he mentions Carlsbad salts, tamarinds, fig syrup or prunes cooked with senna leaves. Penzoldt advocates minute doses of castor oil, and Nothnagel, aloes. In spastic obstipation the mildest means are alone permissible. Severe cases require a rest cure in some clinic or hospital, with, possibly, a systematic course of oil injections. A course at a watering place is advisable for young people, but atonic obstipation in older subjects is best treated by a combination of dietetics, electricity and massage, with small, decreasing doses of some laxative.

28. **Fatal Trichocephaliasis.**—Sandler reports a case from Breslau in which anemia, purpura, bloody diarrhea, vertigo and emaciation developed in consequence of the presence of the tricocephalus dispar. The patient was a lad of 11. He states that it is the third case of fatal trichocephaliasis on record.

29. **Nervous Ear Affections.**—Bürkner emphasizes the neces-

sity for general examination and, possibly, general treatment, before proceeding to local measures. Vomiting and vertigo should always suggest the possibility of some affection of the labyrinth, but this is too often forgotten by the general practitioner. Examination of the ear is of paramount importance in many internal diseases, as many of the phenomena observed may be due to the ear. Certain cases of Ménière's disease are traceable to general vasomotor disturbances with neurasthenia as a predisposing cause. It is best treated by complete rest in bed until cessation of the vertigo and nausea. Ice to the head and repeated vigorous purges, blisters on the back of the neck, iodin to the mastoid process, and venesection should not be neglected in the severer cases. He regards potassium iodid and bromid as preferable to quinin. He orders them in the old formula of 7.5 gm. each in 250 gm. distilled water, of which from 15 to 20 gm. are taken three times a day in half a cup of warm milk. Some physicians prefer nux vomica, salol or pilocarpin. Cold hydrotherapy and vapor baths should be strictly avoided afterward. Subjective phenomena are frequently brought on by overstudy or worry. The auditory nerve is irritated and treatment should spare the nerve further irritation. He has found 1-1,000 atropin sulphate useful for instillation in local treatment of neuralgia of the tympanic plexus.

30. **Remarkable Case of Vicarious Activity.**—Rubinstein classes the patient he describes with Laura Bridgman and Helen Keller on account of the remarkable way in which she conquered her natural infirmities. Selma Kunz was born in 1880 at Wertheim and on account of her unusual intelligence was received into the schools at an exceptionally early age. At the age of 6 an attack of meningitis was followed by complete paralysis, the lips and tongue being the only movable organs left over which she had control. She learned to feed herself by taking up the spoon or fork with her lips and tongue, also to sew with lips and tongue, turn the leaves of books, write, knit and embroider, and even to cut out doll garments with the scissors held in her lips and tongue. She died at the age of 23. Her head corresponded to her years, but the trunk and limbs were those of an emaciated child of 10.

31. **Absorbable Ligation Clamp.**—In various experiments on the heart of animals at the Berne Institute of Physiology, Imchanitzky and Ries found it inconvenient to throw a ligature around all the vessels they wished to tie off. They, therefore, used a long, narrow strip of lead, shaped like the letter U, which they merely squeezed together over the vessel with clamp forceps. It was readily removed at will by cutting through the curved end of the strip. The results were so invariably good that they propose to apply this mode of ligation on man, perfecting the technic by using an absorbable material instead of lead. Magnesium seems most promising for the purpose. Experiences at Kocher's clinic have shown that a strip of magnesium is readily and completely absorbed in a short time.

33. **Intravenous Salicylic Medication.**—Rubens' experience with 60 cases of various affections treated by intravenous injection of small amounts of salicylic acid has been very favorable. In articular rheumatism the effect is remarkable in its promptness, but, in the small doses he uses, the duration of the disease did not seem to be materially shortened. In neuralgia, however, the effect was so prompt and decided that he regards intravenous salicylic medication as the absolute specific for this affection, and also for muscular rheumatism. A single injection usually resulted in a complete cure. The benefit derived differentiates rheumatism from other painful affections. No effect was discernible in influenza, but 2 out-patients with pleuritis were cured with four injections and others with less. Several cases of acute laryngitis were more promptly and favorably influenced by this than by any other treatment. He injects the fluid into a vein in the arm. His formula is .35 gm. sodium salicylate and .05 caffein with distilled water to 2 c.c. This is the same as Mendel's formula, which was decided on after long experience and testing.

35. **Notes from the St. Louis Exposition.**—Waldeyer's appreciative words in regard to the St. Louis Exposition close with an eloquent tribute to the Congress of Arts and Science. Here, for the first time, the work of the thinkers of the world was presented along with that of the workers. He adds that the official report of the exposition, when published, will thus present an unparalleled review of the civilization of the world at the commencement of the twentieth century.

Monatsschrift f. Geb. u. Gynäkologie.

Last indexed page 510.

37 (XX, No. 5.) Uterus duplex separatus cum Vagina duplex separata (Uterus didelphys) mit Carcinom der linken Portio. K. Czerwenka.
38 *Klinische Erfahrungen bei Placenta previa mit bes. Berücksichtigung des späteren Befindens der Patientinnen (later health). J. Sonnenfeld.
39 Prolapse of Vagina and Uterus During Delivery.—Vorfall der Scheide und der Gebärmutter während der Geburt. J. v. Kadyi (Jaslo).
40 *Ueber abdominelle Blasenverlagerung bei Cystocele (operative displacement of bladder). H. Cramer.
41 Zu den Myom-Fragen. Martin.
42 (No. 6.) Zur Anatomie und Entwicklungsgeschichte des Uterus unicornis. K. Natanson.
43 3 interessante Beobachtungen analoger Missbildung (Hernia funiculi umbilicalis). F. Neugebauer.
44 *Die subkutane Paraffin-Injektion Gersunys und ihre Verwertung in der Gynäkologie. M. Stolz.
45 *Restoration of Female Urethra with Closure of Vesicovaginal Fistula.—Eine Methode der Wiederherstellung der weiblichen Harnröhre mit gleichzeitiger Beseitigung einer Blasenscheidenfistel. N. Wolkowitsch (Kiev).
46 *Ein Fall von primärer Bauchhöhlenschwangerschaft (abdominal pregnancy). A. Linck.

38. **Health After Placenta Previa.**—Forty-three out of 50 women who had had placenta previa were examined later by Sonnenfeld. Thirty-eight were found free from disturbances. There was slight anemia in 1, and in 3 a tuberculous lung affection. It had developed consecutively to the placenta previa in 2 instances. There was some gynecologic affection as a consequence of the placental anomaly in 31.4 per cent. Abortion had occurred later in 8.5 per cent. The prognosis, according to these experiences at Orthmann's maternity, is not so serious as some writers have maintained. Pregnancy later pursued a normal course in all but 1 of the 18 cases in which it occurred.

40. **Operative Displacement of Bladder in Treatment of Cystocele.**—Cramer has operated in cases of prolapse and cystocele by fastening the mobilized bladder on the rear wall of the uterus and broad ligament. In 3 cases the posterior wall of the cervix was fastened to the anterior abdominal wall. The result was good. The procedure is indicated only in cases requiring laparotomy for other reasons, and is only exceptionally required.

44. **Paraffin Prothesis in Gynecology.**—Stolz has been experimenting with subcutaneous injection of paraffin in treatment of incontinence of urine and prolapse of uterus or vagina. He is convinced that plastic operations are far preferable when possible, owing to the danger of embolism from the paraffin. The latter is indicated only in cases in which other operations are not practicable. He prefers the comparatively soft to the hard paraffin, and relates his experience with 2 clinical cases.

45. **Restoration of Female Urethra.**—Wolkowitsch has previously reported from Kiev 8 cases of extensive vesicovaginal fistulas cured by a plastic operation for which he utilized the uterus. He now reports 5 additional cases thus treated through the vagina with perfect success. In another case in which the urethra had become obliterated by cicatricial growth he bored another, artificial, passage. To line this new passage he loosened the fistula and also loosened the bladder through a suprapubic incision and drew the fistula through the new passage, fastening the fistula lining to the outer opening of the new, artificial, passage. The results were excellent. This technic puts an end to the fistula and restores the urethra at one stroke.

46. **Abdominal Pregnancy.**—In the case described, the findings at the operation demonstrated that the ovum must have become imbedded primarily in the posterior fold of the peritoneum in the cul-de-sac of Douglas.

Münchener medicinische Wochenschrift.

47 (LII, No. 5, January 31.) *Treatment of Acute Suppuration with Congestive Hyperemia.—Behandlung akuter Eiterungen mit Stauungshyperämie. A. Bier (Bonn).
48 Vergiftung mit Isosafrol (intoxication). Waldvogel.
49 Defects of "Ear Trumpets," Two Important Neglected Aids to Hearing.—Ueber Mängel der Hörröhre und über zwei wichtige von Normal- und Schwerhörigen bisher wenig beachtete Hilfsmittel. A. Lucae.
50 Ein Fall von Nephritis syphilitica acuta. H. Thiemann.
51 Nachprüfung der therapeutischen Wirkungen des Gonosan. E. Runge. Same. G. Merzbach.
52 Nephrektomie eines Falles von vereiterter multilokularer Cystenniere (suppurative cystic kidney). A. Stauder.
53 *Test for Bile Pigments.—Eine einfache Probe auf Gallenfarbstoffe. W. Presslich.
54 Zur Diagnose der Embolie der Arteria mesenterica superior. K. Reitter.
55 Neue Instrumente für chirurgische, gynäkologische und geburtshilfliche Operationen. E. Preiss.
56 Ice Bag for Neck.—Ein neuer Halseisbeutel. Löwenstein.
57 Psychotherapie. E. Bleuler.
58 Wine as a Table Beverage.—Der Wein als Genussmittel vom hygienischen und volkswirtschaftlichen Standpunk. O. Schwartz.

47. **Treatment of Acute Suppuration with Bier's "Congestive Hyperemia."**—Bier has become convinced that the profession has been on the wrong track in combating inflammation. He thinks that by the end of another decade physicians will believe, as a matter of course, that antiphlogosis, in its strict application, was one of the most serious mistakes in the history of medical science. He has long regarded inflammation as something useful, and promotes instead of fighting it. He has applied "congestive hyperemia"—which he regards as the best of all means known to date for increasing existing inflammation—in treatment of 110 cases of acute or subacute suppurative inflammations, after his experience with the chronic had proved so favorable. Each year has extended the sphere of this method of treatment until now he applies it in all cases of accessible suppuration and his results have been eminently favorable. In the present article he describes his technic for acute inflammations and suppurations. The constricting rubber bandage is wound several times around the limb as far as possible above the focus of inflammation, and is tightened until there is great "congestion hyperemia." Comparatively loose constriction will accomplish this in case of acute inflammation. The congestion should induce a fiery red edema. The redness and edema which before had been restricted to the neighborhood of the focus soon spread all over the arm below the bandage. The most remarkable feature of the treatment is the almost immediate arrest or alleviation of the pain. The constriction should never be applied in such a way as to cause pain or to make the limb turn really blue. The nutrition of the parts is not disturbed. The limb swells, becomes edematous and fiery red and feels warm. If these phenomena are not observed after the constriction then the affection has passed its acme and is already on the road to recovery. The constricting bandage is worn for ten hours a day, and severe cases require twenty to twenty-two hours' application. For sensitive patients he uses Henle's apparatus, especially for the legs. The fate of the affection seems to be decided by the proper application of the constriction during the very first few days. In case of annoyance from the bandage it can be taken off at intervals during the day. He does not hesitate to apply it over inflamed lymphatics. They improve as the focus below is influenced for the better. Those who pin their faith to antiphlogistic measures will be amazed at the swollen, fiery red aspect of the limb, but the patient is satisfied as he has been relieved of all pain by the congestive hyperemia induced. The pain is liable to return to some extent during the pauses. This "hyperemia by damming" hastens the course of the suppuration. Necrotic tissue is rapidly cast off, and, what is more important, parts are kept alive which we are accustomed to see doomed to necrosis under ordinary methods of treatment. We have always supposed that this was inevitable. The congestive method further localizes the affection and thus spares the patient the necessity for large, mutilating incisions, while ideal function is restored. Another remarkable feature of the treatment is the way in which the edema and redness gradually subside under the congestive hyperemia, even before the constriction is removed. This is always a sign that the infection has been dominated by the blood and that the unknown inflammation "stimulus" has been abolished. Bier reviews his experiences in detail: 5 cases of fresh pyemic metastases aborted by "congestive hyperemia," 2 cases of the transformation of hot abscesses into a torpid phase, 5 of severe suppurations of large joints which healed under congestive hyperemia without any other measures, not even an incision, and left the joint with absolutely normal function. He thinks that this group alone amply establishes the superiority of his method. He punctures or incises in all cases to allow the escape of the pus unless the benefits from the "congestion hyperemia" become promptly manifest. He rejects draining and tamponing as the mechanism of a joint is too delicate to stand such rough measures.

53. **Sensitive and Simple Test for Bile Pigments.**—Presslich states that 200 to 300 c.c. of urine turn green on addition of from 15 to 20 drops of fuming nitric acid in case of the presence of bilirubin. The reaction is due to oxidation of the bilirubin into biliverdin, the same chemical process as in Gmelin's reaction.

Riforma Medica, Palermo and Naples.

Last indexed page 835.

59 (XXI, No. 1.) *Effects of Resection of Nerves of Pancreas.—Sugli effetti della resezione dei nervi del pancreas. G. Zamboni.
60 Elastic Tissue in Cirrhosis of Liver.—Sulla origine e distribuzione del tessuto elastico nel fegato cirrotico. L. Girolamo.
61 *Sulla fisiopatologia del grande epiploon (of great omentum). R. Pirone.

59. **Effects of Resection of Pancreatic Nerves.**—This operation was well tolerated by dogs and they showed no serious disturbance from it during the six months before they were killed. Retrogressive changes in the islands of Langerhans were marked, but there was no glycosuria, which throws doubt on the assumption that these islands are concerned in the production of glycosuria. Lombroso has also recently reported research on pigeons and dogs, in which he ligated and resected Wirsung's duct. His findings still further disprove this theory. It is much more probable that the functional activity of the pancreas is morphologically single. Zamboni is inclined to accept the idea that the islands of Langerhans are embryonal relics, rudiments of organs which, in the lower vertebrates, still perform a more important function.

61. **Physio-Pathology of the Great Omentum.**—Pirone's researches on the protecting part played by the omentum have been mentioned in these columns. His results should compel us to modify our ideas in regard to the omentum and of serous membranes in general. We have too long regarded them as merely protecting envelopes for the organs below. He has established that they have actual phagocytic action, taking up the elements of a necrotic spleen, for instance, after ligation of its pedicle. In these later experiments he used sodium taurocholate, which has been shown to have an elective action on the spleen when the animals have been immunized against it. An intravenous dose of 20 cg. kills a large rabbit in ten minutes, but when immunized against it the spleen shows specific changes. It becomes enlarged by proliferation of the malpighian corpuscles while macrophages appear in the pulp. He experimented with splenectomized animals, or those in which the spleen had been tied off, inducing immunization against this drug and comparing the findings with those of non-splenectomized animals. The results show that the omentum evidently tried to compensate the absent spleen. Compensatory hyperplastic processes in the lymphatic follicles of the omentum were unmistakably apparent. The findings suggest functional relations between the spleen and omentum beyond what physiologists have hitherto imagined. Cells which possess decided phagocytic action are liberated by the omentum in these conditions. The great omentum evidently participates in those general processes of defense which result in the production of immunity.

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

Last indexed page 589.

62 (XXXIV, No. 21.) *Signs of Pregnancy in First Months.—Gibt es sichere Zeichen der Schwangerschaft in den ersten Monaten? O. v. Herff.
63 Zur Behandlung des Schluckwehs (pain in swallowing). A. Jaquet.
64 (No. 22.) Das freiwillige Hilfswesen in der Schweiz (voluntary first aid in Switzerland). W. Sahli.
65 Die Freyer'sche Operation. P. Campiche.
66 Unfall- und Krankenfürsorge, sowie Wohlfahrtseinrichtungen beim Bau des Simplon Tunnels (care of sick and injured in construction of tunnel). E. Haffter. (Commenced in No. 21.)
67 (No. 23.) Ueber Trockenmilch und ihre Verwendung als Nahrungsmittel (milk powder). A. Jaquet.
68 Ueber die Verwendung von Adrenalin-Kokain in der Geburtshilfe und Gynäkologie. E. Wormser.
69 Nebenbewegungen im Kniegelenk und Ruptur der Menisci articulares. T. Christen.
70 Ueber die Aetiologie der Tuberkulose auf der Gold-Küste (Gold Coast). R. Fisch.

62. **Early Signs of Pregnancy.**—Sarwey's communication on the possibility of diagnosing a pregnancy as early as before the eighteenth week was reviewed in these columns on page 428. In 14 instances he was able to detect the fetal heart sounds at this early date. O. von Herff has paid special attention to this subject, but has never been able to detect the heart sounds so early, and believes it possible only in exceptional cases. He intends to try a curved stethoscope introduced into the vagina, as was proposed some years ago. He was unable to detect the fetal heart sounds even in four fetuses from the twelfth to the sixteenth week of pregnancy which were kept alive in warm physiologic salt solution. No heart sounds could be detected, with or without the stethoscope. He believes, however, that there are other indications which, even at an early stage, allow a presumptive diagnosis of pregnancy with greater confidence than is generally accepted. Ballottement is decisive if it can be determined that it occurs inside the uterus, and if a tumor with ascites can be excluded. Another almost positive sign of pregnancy is the regular increase in the size of the uterus and the pronounced contractions of the fundus. No uterine tumor, no pyometra or hematometra grows so rapidly and regularly in size as the pregnant uterus. Examination at two or three-week intervals will positively decide the question of pregnancy, by this regular growth of the uterus. The contractions also are significant. If a dubious tumor feels very hard at one time and then remarkably soft—doughy—at another, it can be nothing but the gravid uterus. If the fetus dies, the uterus diminishes in size as the amniotic fluid is absorbed. More rapid increase of size than that of a normal pregnancy indicates an acute hydramnion or vesicular mole. In examination of 30,000 women during the last fourteen years, he has encountered only a single instance in which the characteristic patches of discoloration in the vagina occurred outside of a pregnancy. This single exception was in an elderly woman. The patches are deep bluish red or reddish purple, and lie in stripes in the depths of the crevices, especially in the vicinity of the urethra. Mere livid, bluish-green discoloration is frequently encountered outside of pregnancy, in case of disturbances in the circulation from any cause. The true discoloration of pregnancy, as he describes it, he regards as a sign of probability bordering on certainty that a pregnancy exists. [Sarwey replies to von Herff that auscultation must be kept up for twenty to thirty minutes or longer, usually, before the fetal heart sounds become audible at such an early stage as before the eighteenth week. He adds that the birth act is liable to alter the fetal heart action to such an extent that the heart sounds, audible before it, can not be detected afterward, even by direct auscultation of the beating heart of the living fetus. He had occasion to establish this recently in the case of twin fetuses at the fourth and fifth month.—ED.]

Hospitalstidende, Copenhagen.

Last indexed page 481.

71 (XLVII, Nos. 27-28.) Om Appendicitens Etiologii, Patogenese og Diagnose. C. Wessel.
72 *Death from Bee Stings.—Dod ved Bistik. H. Kaarsberg.
73 (No. 29.) *Studier over den kroniske Gastritis. K. Faber.
74 (No. 30.) De otogene Hjerneabscessers Operations-Teknik og deres Efter-Behandlung (brain abscesses). E. Schmiegelow.
75 Structure of Papilloma in Bladder.—Om Blaerepapillomernes Bygning. A. Lendorf.
76 (Nos. 31 32.) *Functional Tests of Kidneys.—Metoderne til at bestemme Nyrernes fysiologiske Funktionsevne forud for Nyreoperationer. T. Rovsing.
77 *Om den Madelung'ske Deformitet af Haanden. K. Poulsen.
78 (No. 34.) Death from Ether.—Et Narkosedodsfald. H. Seidelin.
79 Human Tuberculosis Under Aspect of Perlsucht.—Menneske-tuberkulose af Udseende som Kvaegets Perlesyge. J. Ipsen.

72. **Death from Bee Stings.**—A robust, well to do man of 60, twice had been stung by bees. On one occasion he lay unconscious for two hours afterward. He was very much afraid of being stung, and when the bees attacked him again he died in five minutes. About 50 bees had settled on him, some of them on his lips.

73. **Chronic Gastritis.**—Faber discusses Einhorn's assumed entity of gastritis with "erosions of the stomach." He noticed in 16 cases of chronic gastritis that the gastric mucosa was very easily injured, the mere introduction of the sound or lavage was liable to bring away scraps. This friability of the lining of the stomach occurs very rarely in the absence of gastritis. Ulceration is not an accompaniment of all cases of gastritis, and it may occur with varying degrees. The intensity of the gastritis can not be estimated from the degree of acidity. There is no typical train of symptoms or uniform etiology for ulcerative gastritis. We have no grounds for assuming a spontaneous casting off of scraps of the mucosa, and the gastritis accompanied by ulcerations has scarcely anything to do with the erosions noted at the autopsy. Einhorn's assumed symptom-complex is not sustained by clinical experience. The scraps found in certain cases of chronic gastritis do not reveal a special morbid process, but merely indicate a special friability on the part of the mucosa, due to some pathologic but not uniform condition. So far as the patient is concerned, it is a subordinate phenomenon in certain cases of gastritis, but it may have some diagnostic value in case of acid gastritis.

76. **Tests of Kidney Functioning.**—Rovsing's remarks are based on considerable clinical and experimental research, and were read to open the discussion at the last Northern Surgical Congress. He qualifies cryoscopy of the blood as the most unreliable of the various tests reviewed. Its findings are inconstant and misleading. In the overwhelming majority of cases catheterization of the ureters, showing that the urine from the other kidney is free from albumin, blood, pus or microbes is sufficient basis for confidently carrying out a projected nephrectomy. One of the most important indications which it furnishes is that of the actual presence of the other kidney. Determination of the proportion of urea is the simplest and most reliable of other functional tests, and should be preferred to cryoscopy of the urine and phloridzin glycosuria, as the latter have not displayed any superior advantages over it. In certain rare cases of contracted kidney or of multilocular cystic kidney it may be necessary to expose the other kidney by a lumbar incision to determine by visual inspection and palpation the probabilities as to its assuming the entire urinary function. He emphasizes the fact that because the "other" kidney is not doing its proper amount of work, is no reason for assuming that it can not do it when the inhibiting influence of the diseased kidney is removed.

77. **Madelung's Deformity of the Hand.**—Poulsen gives an illustrated description of 2 cases and reviews 38 in the literature. All but 8 of the patients were women. Linear, oblique osteotomy of the radius restores conditions approximately to normal. His technic is described in detail, with radiograms.

Hygiea, Stockholm.

Last indexed page 511.

80 (LXVII, Nos. 9-10.) *Studier öfver Paranoia querulans. A. Petren.
81 2 fall af myxedem, Ben-sarkom med metastaser. A. Josefson.
82 Nagra ord om eter-narkos efter dropp-metoden med vanlig öppen (kloroform) mask (drop method with open mask). A. Euren.
83 *Prophylaxis of Mercurial Stomatitis.—Om sättet att förekomma kvicksilverstomatiter samt en därtill lämplig tandpasta. J. Almkvist.

84 *Behandlung af tetanus med stora doser kloral (with large doses of chloral). T. Fischer.
85 Anti-Tuberculosis Discussions.
86 Om Röntgen-Behandlung af sarkom. T. Sjogren.
87 *Om äktenskapets ingaende fran hygienens och läkarens synpunkt. S. E. Henschen.
88 (No. 11.) *Sodium Salicylate Treatment of Sympathetic Ophthalmia.—Om den sympatiska oftalmiens behandlung med salicylsyradt natron. C. Lindahl.
89 *Om "preserv-sjukdomar" (illness due to smoked, salted or frozen foodstuffs). E. Ekelöf (physician with Antarctic expedition).
90 Report of V Northern Congress of Internal Medicine, Stockholm, Aug. 29-31, 1904. (Commenced in No. 9.)
91 (No. 12.) *Serum-terapien, sedd fran fysikalisk-kemisk standpunkt. Svante Arrhenius.
92 Nagra iakttagelser fran difteriepidemien i Stockholm, 1903-1904. I. Andersson.
93 *Collective Inquiry in Regard to Venereal Disease in Sweden, Jan. 31, 1905. M. Möller.
94 Relations Between Otitis and Scarlet Fever, Etc.—Forebyggandet af otiter med Skalakansfeber och andra akuta infektionssjukdomar. J. Rodling.
95 2 fall af lupus follicularis disseminatus. H. I. Schlasberg.

80. **Paranoia Querulans.**—Petren relates in minute detail the history of a striking case of contentious, litigious paranoia, reviewing the literature on the subject.

83. **Mercurial Stomatitis.**—Almkvist gives the particulars of 6 cases of syphilis in which stomatitis followed very small doses of mercury, and then of a few more cases in which nothing of the kind was observed, although the mercury had been given in unusually large amounts. The cases cited seem to indicate that the reason why stomatitis develops in some and not in others is on account of the presence or absence of decaying matters and of tartar on the teeth. For this and for other reasons which he enumerates he orders a tooth paste made according to the formula: potassium chlorate, 36; sodium benzoate, 3; sapo albus, 4; sodium biborate and glycerin, each 8, and etherol, 1—the latter being used solely to flavor the paste. The ingredients are all soluble and three years of experience have confirmed the prophylactic efficacy of this tooth paste. It may be preceded by rinsing with a little alcohol. The tartar should be removed beforehand by a dentist.

84. **Large Doses of Chloral in Tetanus.**—No effect was apparent in the severe case of traumatic tetanus described until as much as 2 gm. of chloral had been given seven times a day. The patient was a man of 24. At every attempt to reduce the dose the symptoms recurred with their previous intensity, so these large amounts were continued for thirteen days. Tizzoni's serum and 2 gm. of chloral four times a day had been given during the first six days without appreciable benefit. These large doses relieve the pain and may be given without apprehension as long as the attacks persist. No symptoms of intoxication are observed.

87. **Marriage from the Hygienic and Medical Standpoint.**—Henschen discusses marriage as affecting the prognosis of lung and heart disease, kidney and blood affections, etc. Also the prognosis of the offspring. In respect to venereal diseases, Henschen advocates compulsory instruction of youth in regard to the dangers of venereal diseases. He also advocates a medical certificate as to health as a requisite for the marriage license, and penalties for all those who knowingly transmit venereal disease.

88. **Sodium Salicylate in Sympathetic Ophthalmia.**—Lindahl's experience includes 13 cases of sympathetic ophthalmia. Some of the patients were treated by the administration of 4 to 6 gm. of sodium salicylate daily. The results have confirmed him in the belief that this is a powerful means of combating this affection. It also is a very effectual remedy to use in case of traumatic iridocyclitis, preventing the outbreak of sympathetic ophthalmia or rendering it benign if it does occur. The action of the salicylate is much more certain and prompter than that of mercurial inunctions.

89. **Scurvy.**—Ekelof calls this disease "preserve sickness" as he ascribes it to some intoxication due to the eating of salted, smoked or dried animal foods. This kind of preservation may generate a toxin which is liable to induce scorbutus, epidemic hemeralopia or beriberi. His statements are based on observations made during a three-year trip to the Antarctic regions.

91. **Arrhenius on Serum Therapy.**—This communication on serum therapy from the standpoint of physico-chemistry is merely a recapitulation of data and views with which the readers of THE JOURNAL are already familiar.

93. **Collective Inquiry in Regard to Venereal Disease in Sweden.**—A circular was sent to every physician in Sweden asking him to report on Jan. 31, 1905, the number of cases of syphilis in his charge (males, females), recent, secondary and tertiary; of ulcus molle; of gonorrhea and its consequences (adults and children under 15). Also details in regard to the syphilis, whether it was acquired (genital, extragenital), inherited, or of unknown origin. The male and female cases are listed separately.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

REPORT ON THE ORIGIN AND SPREAD OF TYPHOID FEVER IN U. S. MILITARY CAMPS DURING THE SPANISH WAR OF 1898. By Walter Reed, Major and Surgeon, U. S. A., Victor C. Vaughan, Major and Division Surgeon, U. S. V., and Edward O. Shakespeare, Major and Brigade Surgeon, U. S. V. Vols. I and II. With Maps and Charts. Prepared in Accordance with Act of Congress Under the Direction of Surgeon-General Robert M. O'Reilly, U. S. A. Cloth. Pp. 721. Washington: The Government Printing Office. 1904.

CHANNELS OF INFECTION IN TUBERCULOSIS. Together with the Conditions, Original or Acquired, which Render the Different Tissues Vulnerable. Being the Weber-Parkes' Prize Essay, 1903. By Hugh Walsham, M.A., M.D. (Cantab.), F.R.C.P., Physician to Out-Patients, formerly Pathologist to the City of London Hospital for Diseases of the Chest. Cloth. Pp. 150. Price, $3.00 net. New York: Wm. Wood & Co. 1905.

CLIMATE AND HEALTH IN HOT COUNTRIES and the Outlines of Tropical Climatology. A Popular Treatise on Personal Hygiene in the Hotter Parts of the World, and on the Climates That Will Be Met with Within Them. By Lieut.-Col. G. M. Giles, M.B., F.R.C.S., Indian Medical Service (Retd.). Cloth. Pp. 109. Price, $3.00 net. New York: William Wood & Co. 1905.

GYNECOLOGY. Medical and Surgical. Outlines for Students and Practitioners. By Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City. With 343 Illustrations. Cloth. Pp. 461. Price, $3.00 net. Philadelphia and London: J. B. Lippincott Co. 1905.

STUDIES IN THE PSYCHOLOGY OF SEX—SEXUAL SELECTION IN MAN. I, Touch. II, Smell. III, Hearing. IV, Vision. By Havelock Ellis. Cloth. Pp. XII-270. Price, $2.00 net. Sold Only by Subscription to Physicians, Lawyers and Scientists. Philadelphia: F. A. Davis Co.

FIFTH ANNUAL REPORT OF THE WORK OF THE CANCER LABORATORY OF THE NEW YORK STATE DEPARTMENT OF HEALTH. Conducted at the Gratwick Research Laboratory, University of Buffalo, for the Year 1903-4. Paper. Pp. 164. Albany: J. B. Lyon Co. 1904.

LIST OF THE FELLOWS, MEMBERS, EXTRA-LICENTIATES AND LICENTIATES of the Royal College of Physicians of London and of Holders of the Diploma in Public Health, Granted Jointly by the Royal College of Physicians and Surgeons. Cloth. Pp. 310.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA. Fifty-fifth Annual Meeting, Held at Raleigh, N. C., May 24, 25 and 26, 1904. Cloth. Pp. 590. Raleigh: Press of Edwards and Broughton. 1905.

TRANSACTIONS OF THE THIRTEENTH ANNUAL MEETING OF THE HAWAIIAN TERRITORIAL MEDICAL SOCIETY, Held in Honolulu, Nov. 19, 20 and 21, 1904. Paper. Pp. 155. Honolulu: Robt. Grieve Printing Co. 1905.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, at its Twenty-eighth Annual Meeting, Held at Niagara Falls, N. Y., June 2 and 3, 1904. Paper. Pp. 204. New York: The Grafton Press.

THE SURGICAL TREATMENT OF FACIAL NEURALGIA. By J. Hutchinson, Jun., F.R.C.S., Surgeon to the London Hospital. Cloth. Pp. 149. Price, $2.50 net. New York: Wm. Wood & Co. 1905.

THIRTY-FOURTH ANNUAL REPORT OF THE CENTRAL STATE HOSPITAL OF VIRGINIA, for the Fiscal Year Ending Sept. 30, 1904. Paper. Pp. 124. Richmond: Everett Waddey Co. 1904.

ELEVENTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE CRAIG COLONY FOR EPILEPTICS. At Sonyea, N. Y. To the State Board of Charities, Oct. 1, 1904. Paper. Pp. 88.

NINETEENTH REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF MINNESOTA, 1901-1902. Cloth. Pp. XX-418. St. Paul, Minn.: Pioneer Press Co. 1902.

SECOND ANNUAL REPORT BY SURGEONS OF THE NEW AMSTERDAM EYE AND EAR HOSPITAL, New York, for 1904.

FIFTEENTH ANNUAL REPORT OF ST. MARY'S HOSPITAL, Rochester, Minn., for the Year 1904. Paper. Pp. 27.

REPORT OF THE TRUSTEES OF THE NEWBERRY LIBRARY, for the Year 1904. Paper. Pp. 24.